

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**BOARD ORDER NO. R6V-2016-0037  
WDID NO. 6B190343001**

**REVISED WASTE DISCHARGE REQUIREMENTS  
FOR  
LANCASTER LANDFILL AND RECYCLING CENTER**

Los Angeles County

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The California Regional Water Quality Control Board, Lahontan Region (Water Board) finds:

1. Discharger

Waste Management of California, Inc. owns and operates the Lancaster Landfill and Recycling Center. For the purposes of this Order, Waste Management of California, Inc. is referred to as the "Discharger" and the Lancaster Landfill and Recycling Center is referred to as the "Facility." "Landfill" refers to the authorized waste disposal areas described in finding 10.

2. Facility Description

The Facility is an active Class III landfill disposal facility that receives and stores non-hazardous residential, commercial, industrial and inert municipal solid wastes. The Facility currently accepts waste at the original unlined landfill area (Original Area) and the lined Western Expansion Area. These two areas have a combined waste disposal footprint of 128.9 acres. The future (not yet constructed) Eastern Expansion Area will be a lined landfill unit with a waste disposal footprint of 81.4 acres. The Western and Eastern Expansion Areas were previously authorized under waste discharge requirements (WDRs) issued to the Discharger in June 2000 (Board Order No. 6-00-55). The total authorized waste disposal footprint is 210.3 acres, and the Facility property's total acreage is 276 acres. The remaining property acreage not used for waste disposal consists of ancillary support facilities, such as parking, storage space, access roads, scale house and entrance facility, on-site water storage tanks, operations compound, recycling drop-off center, storm water retention basins, and a landfill gas flare station. Administrative offices and maintenance facilities are located in the northwest portion of the property, along with a now-completed research pilot project called the Reclaimable Anaerobic Composter, discussed below.

3. Reclaimable Anaerobic Composter

The Reclaimable Anaerobic Composter (RAC) is a pilot project located on two acres of the Facility in the northern portion of the Western Expansion Area. It was designed to assess the feasibility and optimum material mix for anaerobic composting of food and green waste materials. The project was conducted in a series of six below-ground-surface pods lined with 60-mil high density polyethylene (HDPE) and covered with a low density polyethylene liner. Monitoring of groundwater, leachate, vadose zone and subsurface gas was conducted semi-annually to quarterly. The pilot project operated

from August 2011 through August 2015 under authorization from the Los Angeles County Department of Health Services and is now completed. The Discharger has decided not to pursue a full-scale version of the RAC at this time. The RAC infrastructure will be removed, and the bottom of the pods will be inspected for leakage. Any evidence of leakage will be excavated, sampled and disposed of accordingly. This Order acknowledges completion of the RAC project, and includes a time schedule for submitting a final report on the RAC removal.

4. Facility Location

The Facility is located in an unincorporated area of northern Los Angeles County, California. The nearest city is the City of Lancaster, located about 2 miles south of the Facility. The Facility is within Sections 35 and 36, Township 8 North, Range 12 West, San Bernardino Base and Meridian. The Facility location is shown on Attachment A, which is made part of this Order.

5. Report of Waste Discharge

The Discharger submitted the following documents comprising a Report of Waste Discharge:

- a. September 2012 *Revised Joint Technical Document (JTD) and Revised Preliminary Closure and Post Closure Maintenance Plan (PCPCMP)*, received October 12, 2012;
- b. March 29, 2013, correspondence, *Current Conditions Summary and Response to Regional Water Quality Control Board Concerns Regarding Corrective Action Program*, providing additional information on current conditions and corrective action status;
- c. November 4, 2015, correspondence, *Response to Regional Water Quality Control Board letter dated November 9, 2012*, providing responses to Water Board staff requests for additional information on the September 2012 revised JTD/PCPCMP, and
- d. January 15, 2016, *Revised Acceptance Criteria for Soil*, submitted in response to Water Board staff comments.

Water Board staff notified the Discharger via letter dated January 28, 2016, that its Report of Waste Discharge/Joint Technical Document (RWD/JTD) was deemed complete.

6. Reason for Action

The Discharger requested that the Water Board revise the waste discharge requirements (WDRs) for the Facility to incorporate changes listed below. The RWD/JTD provides the necessary support and rationale required by California Code of Regulations (CCR), title 27, section 20080, subsection (b). Based on the information provided by the Discharger, the Water Board is revising WDRs to:

- a. Correct the total permitted waste disposal footprint from 209 acres to 210.3 acres. This acreage includes the Original Area, Western and Eastern Expansion Areas. This is not an increase in the footprint for disposal, but rather a correction due to an inaccuracy in scale in the location of the southern boundary;
- b. Reflect an increase in daily tonnage acceptance from 1,700 tons per day to 3,000 tons/day of municipal solid waste (MSW), and up to 2,100 tons/day of inert debris and beneficial use materials for a maximum permitted tonnage of 5,100 tons/day. These increases in waste acceptance tonnage do not result in increasing the waste disposal footprint or total capacity of the Landfill, but rather could result in the Landfill reaching its full capacity in a shorter timeframe depending on actual daily waste inflow rates. These increases are consistent with the current Conditional Use Permit No. 03-170-(5), approved by Los Angeles County and the Solid Waste Facility Permit No. 19-AA-0050, issued by the Local Enforcement Agency (LEA<sup>1</sup>);
- c. Authorize the Discharger's proposed waste acceptance criteria for soil contaminated with total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), or semi-volatile organic compounds (SVOCs), for disposal, beneficial reuse and use as alternative daily cover (ADC);
- d. Establish time schedules for updating the Facility's Storm Water Pollution Prevention Plan (SWPPP), Waste Acceptance Plan, and concentration limits for constituents of concern; submitting a final report on the RAC closure; conducting sampling and submitting workplans to define VOC plumes in soil gas and groundwater to support revisions to the existing Corrective Action Plan for the Facility, and
- e. Revise the Monitoring and Reporting Program (MRP).

7. Order History

- a. Discharge specifications for the Facility were first set in Board Order No. 6-73-53.
- b. Revised WDRs were adopted in:
  - 1979 to reflect an increase in Landfill capacity (Order No. 6-79-10);
  - 1987 as part of a state-wide WDR update effort (Order No. 6-87-11), and
  - 1992 to reflect an increase in Landfill capacity (Order No. 6-92-07).

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<sup>1</sup> The LEA is the County of Los Angeles Department of Public Health, Solid Waste Management Program.

- c. Board Order No. 6-92-07A1 revised WDRs to require corrective action for VOCs detected in groundwater beneath the Facility, and to establish a time schedule for compliance.
- d. Board Order No. 6-92-20 revised WDRs to regulate the discharge of treated groundwater from the corrective action groundwater extraction system.
- e. Board Order No. 6-95-103 required the Discharger to achieve compliance with the new requirements of Chapter 15, Title 23, California Code of Regulations.
- f. Board Order No. 6-95-103A1 revised WDRs to set a deadline of August 1, 2000, as the last date for discharging to the unlined areas of the original Landfill.
- g. Board Order 6-00-55 revised WDRs to require the Discharger to achieve compliance with the requirements of CCR, title 27, for the planned expansion of the Landfill to comply with federal subtitle D requirements and removed the schedule for ceasing discharge to the unlined areas of the Landfill based on the observed effectiveness of the existing CAP. Order No. 6-00-55 also accepted the Discharger's engineered alternative liner design for the proposed Facility expansion areas.
- h. Board Order 6-00-55A1 was adopted on October 14, 2010, and amended the WDRs to incorporate an engineered alternative to the prescriptive final cover into the Preliminary Closure Post Closure Maintenance Plan.

8. Waste Management Unit Classification

Pursuant to CCR, title 27, section 20260, the Landfill is classified as a Class III waste management unit. The Landfill is classified as a Large Landfill in Subtitle D, (Code of Federal Regulations [CFR] Parts 257 and 258).

9. Waste Classification

The waste discharged to the Landfill is defined in the CCR, title 27, sections 20220 and 20230, as non-hazardous and inert solid waste, respectively. The waste discharged to the Landfill is defined as municipal solid waste (MSW) in Subtitle D. The Landfill receives nonhazardous solid waste and other special wastes (treated auto shredder waste, non-hazardous and non-designated contaminated soils, treated wood waste, non-friable asbestos containing materials) from the Cities of Lancaster/Palmdale and nearby communities. Nonhazardous solid waste is defined in CCR, title 27, sections 20220. The other special wastes are discussed in findings 14 through 19.

10. Authorized Disposal Sites

The Original Area, Western Expansion Area and the future Eastern Expansion Area are shown in Attachment B, and are the only authorized waste disposal sites. Clean or slightly contaminated non-hazardous/non-designated waste soils which meet specific discharge criteria may be beneficially re-used (see finding 17) at the Facility.

11. Hazardous Waste Management

The Discharger implements a Hazardous Waste Exclusion Program to comply with state and federal regulations under CCR, title 27, sections 20220 and 20870 and 40 CFR Part 258.20. Waste is inspected through a Random Load Inspection Program and continuously at the active working face. Wastes that pose an immediate risk to the health and safety of site personnel require notification of an emergency response unit. Low risk materials which can be handled safely are managed by site personnel. These wastes are stored on-site in a designated storage area until a licensed hazardous waste hauler or recycler can dispose of the waste properly. On-site hazardous waste storage is limited as required by the State Department of Toxic Substances Control.

12. Waste Approval Plan and Waste Acceptance Criteria

The Discharger implements a Waste Approval Plan to prescreen any wastes that may be considered a designated or hazardous waste and to check incoming loads of waste for materials that may not be acceptable at a Class III landfill. Prior to acceptance of a material at the Facility, the material must be described or profiled (including analytical results as needed) by the waste generator or customer. For soils accepted for disposal, waste acceptance criteria (WAC) have been proposed by the Discharger to ensure that accepted material meets the Class III definition of waste as defined in section 20230(a) of title 27. The Discharger proposed WAC for total petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, and polychlorinated biphenyls. Water Board staff have reviewed the Discharger's May 6, 2016 *Waste Acceptance Criteria for Soil*, prepared by Geosyntec for Waste Management Inc., and determined that the criteria are appropriate to ensure the accepted soil meets the Class III waste classification and are protective of groundwater quality.

This Order accepts the Discharger's May 6, 2016, *Waste Acceptance Criteria for Soil*, and requires the Discharger to update its Waste Approval Plan to incorporate the accepted WAC, and to include sampling and/or analysis requirements for treated auto shredder waste, treated wood waste, and contaminated soil.

13. Alternative Daily Covers (ADCs)

ADCs are utilized at the Landfill. Tarps, curbside green waste, processed construction and demolition material, non-hazardous/non-designated contaminated soil, and dried drinking water treatment sludge are approved for ADC at the Landfill.

Pursuant to CCR, title 27, section 20690(b), all types of ADC must be approved by the LEA<sup>2</sup>, prior to use at the Landfill as consistent with CCR, title 27, section 21570 through section 21686. Proposed uses of ADC materials potentially require site-specific demonstration projects approved by the LEA with concurrence by CalRecycle to establish suitability as daily cover.

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<sup>2</sup> According to paragraph 35 d. of Conditional Use Permit #03-170-(5), approved by Los Angeles County on December 11, 2011, the following materials shall not be used as daily, intermediate or Final Cover at the Landfill: automobile shredder waste, cement kiln dust, dredge spoils, foundry sands, processed exploration waste, production wastes, shredded tires, and foam.

However, site-specific demonstration projects are not required for the following materials used as specified and in accordance with CCR, title 27, section 20690(a):

- a. contaminated sediment, dredge spoils, foundry sands, energy resource exploration and production wastes;
- b. geosynthetic fabric or panel products (blankets);
- c. foam products;
- d. processed green material;
- e. sludge and sludge-derived materials;
- f. ash and cement kiln dust materials;
- g. treated auto shredder waste;
- h. compost materials;
- i. processed construction and demolition wastes and materials;
- j. shredded tires; and
- k. spray applied cementitious products.

Water quality protection requirements for cover materials are contained in CCR, title 27, section 20705(e) as follows:

Limitations on Cover Materials — Except for reusable covers that are never incorporated into the landfill, daily and intermediate cover shall only consist of materials:

- a. Match Landfill Classification — which meet the classification criteria for wastes that can be discharged to that landfill. Therefore, a material that would be classified as a designated waste cannot be utilized for daily or intermediate cover at a Class III landfill unless that material is approved for discharge (as a waste) to that landfill pursuant to CCR, title 27, section 20200(a)(1); and
- b. Composition — whose constituents (other than water) and foreseeable breakdown byproducts, under the chemical (including biochemical) and temperature conditions which it is likely to encounter within the landfill, either:
  - i. for non-composite lined portions of the landfill, are mobilize-able only at concentrations which would not adversely affect beneficial uses of waters of the State, in the event of a release; or
  - ii. for composite-lined portions of the landfill, are listed as constituents of concern in the landfill's water quality protection standard, created pursuant to CCR, title 27, section 20395.

#### 14. Treated Auto Shredder Waste (TASW)

Treated (stabilized) auto shredder waste is any non-recyclable waste from the shredding of automobile bodies (from which batteries, mufflers, mercury switches, and exhaust pipes have been removed), household appliances, and sheet metal. TASW from certain authorized facilities, under a waiver issued by the California Department of Toxic Substances Control (DTSC), and managed pursuant to CCR, title 22, section 66260.200(f), and according to DTSC Policy and Procedure No. 88-6, may be managed as non-hazardous waste. The Discharger may discharge TASW to the lined portions of the Landfill only. This Order establishes discharge concentration limits for certain

constituents found in TASW. This Order requires the Discharger to update its Waste Approval Plan to include sampling and analysis requirements for generators of TASW. These data will be reported by the Discharger in order to assess compliance with the TASW discharge concentration limits.

15. Treated Wood Waste

CCR, title 22 defines “treated wood” to mean wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood and the chemical preservative is registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, 7 U.S.Code, section 136 and following). This may include but is not limited to waste wood that has been treated with chromated copper arsenate, pentachlorophenol, creosote, acid copper chromate, ammoniacal copper arsenate, ammoniacal copper zinc arsenate, or chromated zinc chloride. The Discharger may discharge treated wood waste to the lined portions of the Landfill only.

Findings and specifications in this Order apply only to treated wood waste that is a California hazardous waste, solely due to the presence of a preservative in the wood. Treated wood that is not a California hazardous waste can be handled as construction and demolition debris or MSW, as appropriate, and the limitations and prohibitions for its handling as a California hazardous waste as specified in this Order do not apply.

16. Treated Wood Waste Disposal

CCR, title 22, section 67386.11 allows treated wood waste to be disposed in a composite-lined portion of a MSW landfill that is regulated by WDRs issued pursuant to the California Water Code provided that the landfill:

- a. Comply with the prohibitions in CCR, title 22, section 67386.3, which are:
  - i. Treated wood waste shall not be burned, scavenged, commingled with other waste prior to disposal, stored in contact with the ground, recycled without treatment (except as in iii, below), treated except in compliance with section 67386.10, or disposed to land except in compliance with section 67386.11.
  - ii. Any label or mark that identifies the wood and treated wood waste shall not be removed, defaced, or destroyed.
  - iii. Treated wood waste may be recycled only by reuse when all of the following apply:
    - Reuse is onsite.
    - Reuse is consistent with FIFRA approved use of the preservative.
    - Prior to reuse, treated wood waste is handled in compliance with CCR, title 22, division 4.5, chapter 34.
- b. Ensure treated wood waste is managed at the landfill according to CCR, title 22, division 4.5, chapter 34 prior to disposal.

- c. Monitor the landfill for a release and if a verified release is detected from the unit where treated wood is disposed, the disposal of treated wood will be terminated at the unit with the verified release until corrective action ceases the release.
- d. Handle treated wood waste in a manner consistent with the applicable sections of the California Occupational Safety and Health Act of 1973.

17. Contaminated Soils and Related Wastes

Soils contaminated with moderate concentrations of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), organochlorine pesticides, polychlorinated biphenyls (PCBs), and California Assessment Manual (CAM-17) metals are wastes as defined in California Water Code (CWC) section 13050 and are required to be regulated under waste discharge requirements pursuant to CWC section 13263(a). The discharge of such wastes to land could affect the quality of the waters of the State if not properly managed. This Order sets forth requirements to ensure that discharge of such wastes does not affect the quality of waters of the state.

Pursuant to CCR, title 27, section 20686, beneficial reuse of solid wastes at the Facility shall include, but not be limited to, the following: alternative daily cover, alternative intermediate cover, final cover foundation layer, liner operations layer, leachate and landfill gas collection system, construction fill, road base, wet weather operations pads and access roads, and soil amendments for erosion control and landscaping.

The Discharger proposes to accept non-hazardous and non-designated contaminated soils for on-site beneficial use (daily or intermediate cover, berms, maintenance of tipping deck, roads) and for disposal. This Order prescribes discharge criteria for contaminated soils beneficially reused onsite without restriction, used as ADC or disposed of in the lined portion of the Landfill, including criteria for arsenic in soils, discussed below.

The Discharger has proposed a background level for arsenic in soil for beneficial reuse onsite without restriction of 12 milligrams per kilogram (mg/kg). This value is based on a 2008 study<sup>3</sup> conducted by the DTSC to establish a regional background screening level for arsenic in southern California. Data were derived from environmental assessments of proposed school sites. Statistical analysis of data collected from Los Angeles County (1,097 samples) indicates the upper bound (95 percent confidence limit of the 99<sup>th</sup> percentile) of background arsenic concentrations is 12 mg/kg. This value is comparable to the ranges reported by the US Geological Survey (USGS) in its *National Geochemical Survey* for arsenic in Kern and Los Angeles counties<sup>4</sup> (Kern County is adjacent to the north of Los Angeles County, and the Facility is located near the northern border of Los Angeles County). The USGS reports arsenic in soil and sediments at an average value of 6.7 (+/- 8.2) mg/kg for Los Angeles; and for Kern County, the average value is 12.7 (+/- 27.7) mg/kg. This Order accepts the DTSC regional background level for arsenic in soil to be beneficially reused onsite without restriction.

<sup>3</sup> Available at <https://www.dtsc.ca.gov/upload/Background-Arsenic.pdf>.

<sup>4</sup> Available at <http://mrdata.usgs.gov/geochem/doc/averages/as/southwestern.html>.



18. Non-Friable Asbestos Containing Materials

Non-friable asbestos containing material (ACM) is any material containing more than one percent (1%) asbestos that when dry cannot be crumbled, pulverized, or reduced to powder by hand pressure. The Discharger shall accept only non-friable ACM for disposal. Friable asbestos must be managed as a non-RCRA hazardous waste as regulated by CCR, title 22, section 66261.24.

19. Sewage Sludge

The Facility is approved to accept dewatered sewage sludge with 50 percent solids or more. According to Solid Waste Facility Permit No. 19-AA-0050, issued February 19, 2013, by the LEA, the amount of sludge accepted at the Facility is not to exceed 10 tons/day. Sewage sludge may be discharged to the lined portions of the Landfill only.

20. Subtitle D Compliance Status

Subtitle D requirements for the Landfill became effective on October 9, 1993. According to the Discharger's previous WDRs (see finding 7 of Board Order No. 6-00-55), the Discharger, to demonstrate compliance with Subtitle D, submitted complete information regarding the acceptance of liquids, the distance from the Landfill to the nearest drinking water source, and whether the Landfill is located in a 100-year floodplain or a wetlands. The Discharger also documented the waste footprint as of March 22, 1999, (the Original Area), which Board Order No. 6-00-55 states is exempt from Subtitle D requirements for composite liners. Therefore, as described in Board Order No. 6-00-55, the Original Area will continue to receive waste until final grade elevations are met, upon which the Original Area will be closed in accordance with the approved closure plan.

The Original Area has approximately 420,000 cubic yards of capacity remaining (excluding final cover volume) as of January 2016. Because the Original Area accepts waste only periodically, it has an intermediate cover consisting of compacted soil ranging from 1 to 1.5 feet thick. The lined Western Expansion Area has been receiving waste since December 2004 and includes active Phases 1A, 1B, 1C, and 2A, and future Phase 2B. The future lined Eastern Expansion Area will consist of five phases designated Phases 3 through 7. It is estimated that construction of the Eastern Expansion Area will not occur for another 3 to 9 years depending on incoming waste rates. The Western and Eastern Expansion Areas have been designed to comply with the requirements of Subtitle D as implemented by State Water Board Resolution No. 93-62.

21. Land Uses

Land use in the vicinity of the Facility generally consists of open space. The area is characterized by wide open desert space with sporadic concentrations of structures or dwellings mainly south and west of the site. The nearest structures are a small radio station located approximately one-quarter mile west of the Facility, and twelve parcels consisting of homes or small businesses approximately one-half mile south of the

Facility. Los Angeles County and Antelope Valley area land use maps designate the area as "non-urban."

22. Site Topography

The land surface around the Facility is relatively flat, sloping 15 to 20 feet per mile to the northwest. Ground surface elevations around the site are between 2,310 and 2,325 feet above mean sea level.

23. Climate

Infrequent rainfall, large seasonal and diurnal temperature ranges, low relative humidity, gusty winds, and high percentage of sunshine characterize the climate. The precipitation in the area of the Facility is approximately 8 inches annually. The evaporation rate ranges from 0.51 inches in December to approximately 6.64 inches in July.

24. Site Geology

The Facility is located in the western Mojave Desert in the topographic Antelope Valley Basin. The Antelope Valley Basin is part of the Mojave Block, which is a down-faulted structural depression. It is bounded on the north by the Rosamond and Bissel Hills, on the northwest by the Garlock Fault and Tehachapi Mountains, on the south and southwest by the San Andreas Fault Zone and the San Gabriel Mountains, and on the east by a series of small hills which separate the Antelope Valley from the Mojave and Fremont Valleys. The surrounding mountains are primarily composed of Pre-Tertiary igneous and metamorphic rocks, Tertiary volcanic rocks and marine and non-marine sedimentary rocks.

25. Seismic and Unstable Area Hazards

Pursuant to CCR, title 27, section 20260, expansion of Class II and Class III landfills as defined by CCR, title 27 requires that the landfill not be located within 200 feet of a Holocene fault. Based on the Discharger's investigations, the Facility is not located on a Holocene fault, and in a letter dated March 4, 1999, Water Board staff concurred that adequate site-specific information had been presented to demonstrate that there is no evidence of Holocene faulting within 200 feet of the proposed landfill expansion areas.

Slope stability and deformation analyses for the designed Landfill configuration indicate that analyzed sections have static factors of safety greater than 1.5, and that computed seismically-induced permanent displacements are six inches or less, meeting CCR, title 27 requirements.

26. Site Hydrogeology

Unconsolidated alluvial deposits from the ground surface to approximately 100 feet below ground surface (bgs) underlie the Facility. These alluvial deposits consist of inter-bedded gravel, sand, silt and clay. A continuous clay layer is present at the Facility beneath these alluvial deposits, and is estimated to be up to 200 feet in thickness in the vicinity of the Facility. Groundwater beneath the Facility is present at

depths ranging from approximately 55 to 65 feet bgs, and exists in two main aquifers: the principal (upper) mostly unconfined aquifer, and the deep mostly confined aquifer located beneath the clay layer. The deep aquifer is not hydraulically connected to the upper aquifer in the immediate vicinity of the Facility. At the Facility, groundwater flows in a south/south easterly direction at a velocity of approximately 105 feet per year.

The nearest off-site domestic wells are located approximately one-quarter mile from the Facility in the cross-gradient groundwater flow direction, and approximately one-half mile in the downgradient groundwater flow direction.

27. Groundwater Monitoring Well Network

The current groundwater monitoring network for the Original Area includes fifteen corrective action monitoring wells (MW 1, MW-2, MW-3, MW-5, MW-7, MW-12, MW-13, MW-14, MW-15, MW-16, MW-18, EX-8, EX-9, EX-10 and EX-11). The Western Expansion Area is monitored by one background monitoring well MW-6 and two downgradient detection monitoring/point of compliance monitoring wells MW-8 and MW-9. The locations of these monitoring wells are shown in Attachment B.

28. Groundwater Quality

Groundwater quality at the Facility appears to be good in comparison to drinking water standards, with the exception of VOC-impacted groundwater present beneath the Facility. Data presented in the Discharger's December 2015 *Semi-annual Groundwater Monitoring Report* indicates that total dissolved solids (TDS), chloride, sulfate and nitrate were not detected above their respective drinking water standards, also known as Maximum Contaminant Levels (MCLs, for nitrate) or secondary MCLs (SMCLs, for TDS, chloride and sulfate). Table 1 summarizes groundwater quality from selected monitoring wells at the Facility for TDS, sulfate and nitrate as nitrogen (nitrate as N).

**Table 1.** TDS, chloride and nitrate in groundwater and associated MCLs, November 2015. Concentrations are in milligrams per liter (mg/L).

MW #	Location	TDS	Sulfate	Nitrate as N
MCL or SMCL →		500 mg/L	250 mg/L	10 mg/L
MW-1	Northern Boundary Original Area	190	9.3	0.045
MW-2	Original Area	180	11	0.63
EX-8	Original Area	220	13	0.22
EX-9	Original Area	190	13	0.15
EX-10	Original Area	180	12	0.19
MW-13	Downgradient	210	13	0.11

29. Volatile Organic Compounds Detected in Groundwater

Groundwater monitoring has been conducted at the Facility since 1987. During the initial monitoring events, VOCs were detected in four monitoring wells. According to figures presented in the Discharger's December 2015 *Semi-annual Groundwater Monitoring Report*, VOC-impacted groundwater originates in the northwestern portion of the Original Area and extends approximately 800 feet beyond the southern/southeastern Landfill boundary. Tetrachloroethene (PCE) is the primary VOC in groundwater, along with its breakdown product trichloroethene (TCE). 1,1-dichloroethane (1-1, DCA), dichlorodifluoromethane (Freon-12) and acetone are also detected. The highest concentrations of PCE (up to 57 micrograms per liter [ $\mu\text{g/L}$ ] in 2001) have historically been detected in monitoring well MW-5 located at the southeast corner of the Original Area. Data from 2014 (the most recent available data for MW-5) shows PCE concentrations ranging from 11 to 20  $\mu\text{g/L}$ .

Table 2 shows the most recent (second quarter 2015) concentrations of VOCs in monitoring wells in and near the Original Area, which is the primary source of VOCs.

**Table 2.** VOCs in groundwater and associated MCLs, November 2015. Concentrations are in micrograms per liter ( $\mu\text{g/L}$ ).

MW #	Location	PCE	TCE	1, 1-DCA
	MCL →	5 $\mu\text{g/L}$	5 $\mu\text{g/L}$	5 $\mu\text{g/L}$
MW-1	Original Area	3.5	<0.8	<0.8
MW-2	Original Area	6.2	1.7	0.8
EX-8	Original Area	8.6	3.3	1.5
EX-9	Original Area	9.2	2.1	1.3
EX-10	Original Area	19	7.7	0.92
MW-13	Downgradient	3.7	1.3	1.2

The extent of the VOCs in groundwater has not been fully delineated. For example, PCE concentrations in monitoring wells EX-9 and EX-10 show increasing contaminant trends. Therefore, additional groundwater monitoring wells are needed to determine the downgradient extent of adverse impacts to groundwater from the Facility. Additionally, because VOCs are present in groundwater in upgradient monitoring well MW-1, an additional upgradient well is required. MW-5 is frequently dry and cannot be sampled; therefore, this Order requires it to be abandoned and replaced. This Order includes a time schedule for submitting a workplan to install additional monitoring wells to define the lateral and vertical extent of VOC-impacted groundwater from the Facility.

30. Existing Corrective Action

A Corrective Action Plan (CAP) was initiated February 1994, regulated under Board Order No. 6-92-20. The CAP consisted of a groundwater extraction, treatment and re-injection system using granular activated carbon to remediate the impacted groundwater. The Discharger operated the groundwater treatment system from February 1994 to March 2002, when the extraction wells and treatment system were shut off as part of a CAP pilot study. Results from the pilot study were presented in the Discharger's August 2005 revised *Corrective Action Program Pilot Study Report and Monitored Natural Attenuation Plan*.

The Discharger has not resumed groundwater extraction and has proposed landfill gas (LFG) control in combination with Monitored Natural Attenuation (MNA) as a revised Corrective Action Plan. Although the revised CAP has not been accepted by Water Board staff, LFG control has been in place since 1993 and is ongoing, and geochemical parameters to investigate favorable MNA conditions are monitored and reported semi-annually. The LFG control system has been expanded or upgraded in 2006, 2007, 2010, and late 2013. However, VOC concentrations in groundwater monitoring wells located in the vicinity of the southeast portion of the facility do not appear to be decreasing as expected, but remain static. Therefore, additional evaluation of the LFG control system is needed to determine if extraction rates can be increased using the existing system, or if additional LFG control or supplemental soil gas extraction is needed.

This Order requires workplans to: 1) investigate if the current LFG control system is adequate to provide source control of VOCs, or if additional gas control is needed; 2) ensure the extent of VOCs in soil gas is adequately defined to protect and restore groundwater quality, and 3) demonstrate that MNA is an appropriate approach to restore the aquifer water quality to support beneficial uses in a reasonable time period. This Order establishes a time schedule for submitting workplans to conduct the above described evaluations.

### 31. Site Hydrology

The Facility is located in the Antelope-Fremont Valley watershed (USGS Hydrologic Unit Code [HUC-8] 18090206) and within the Lake Palmdale/Piute Ponds subwatershed (USGS HUC-10 1809020615). Most surface water flows within the Antelope-Fremont Valley watershed either infiltrate into the ground or evaporate, or during large storm events continue to flow to the watershed's three terminal dry lakes: Rosamond, Buckhorn, and Rogers dry lakes. The US Army Corps of Engineers has determined that these dry lakes and tributaries to them are isolated, non-navigable water bodies that do not exhibit a substantial interstate or foreign commerce connection and, as a result, are not waters of the United States subject to federal regulation<sup>5</sup>.

There is no perennial surface water flow in the vicinity of the Facility, and the Facility is not located within the limits of a 100-year floodplain. An isolated ephemeral drainage feature is located near the future Eastern Expansion Area as indicated on the USGS topographic map of the Facility and surrounding area.

### 32. Site Storm Water Management

The Discharger has proposed three sedimentation basins to capture storm water runoff from the Landfill. The sedimentation basins, in conjunction with outlet and spillway components, have been sized to control sediment and runoff within their respective tributary areas during a 24-hour, 100-year storm event. A perimeter drainage channel is proposed for the Western and Eastern Expansion Areas, comprised of graded trapezoidal and triangular channels around the refuse footprint. The proposed channels

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<sup>5</sup> US Army Corp of Engineers Jurisdictional Determination for Antelope Valley, June 7, 2013, <http://www.spl.usace.army.mil/Portals/17/docs/regulatory/JD/AJD/2013/SPL201101084-SLP.pdf>.

have a three foot high berm to prevent run-on from surfaces adjacent to the landfill. The proposed channels also serve as the conveyance system to the sedimentation basins for on-site flows originating on the landfill.

This Order requires prohibitions, limitations, and provisions for storm water and non-storm water discharges associated with activities at the Facilities to protect water quality in waters of the state. This Order includes a time schedule for submitting a revised Storm Water Pollution Prevention Plan describing facility-specific Best Management Practices (BMPs) to limit constituents in contaminated soils, related wastes, or foreseeable breakdown byproducts from entering storm water and waters of the state.

33. Recycled Water Use

The Discharger proposes to use disinfected tertiary recycled water from the Los Angeles County Sanitation District No. 14 (LACSD) for dust control at the Facility. LACSD is an authorized producer of recycled water regulated under Board Order No. R6V-2006-0009, *Master Water Recycling Requirements*, which requires LACSD to comply with recycled water regulations; establish and enforce *Requirements for Recycled Water Users*; conduct periodic inspections of recycled water use sites to monitor compliance, and submit reports. The Discharger is an authorized recycled water user according to Board Order No. R6V-2006-0009. LACSD has adopted ordinances and requirements for recycled water users to ensure that such use meets all regulations and complies with the conditions in Board Order No. R6V-2006-0009. This Order authorizes the use of recycled water in compliance with all specifications and provisions of Board Order No. R6V-2006-0009 and LACSD's *Requirements for Recycled Water Users*, adopted July 1, 2008.

34. Basin Plan

The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan) which became effective on March 31, 1995. This Order implements the Basin Plan, as amended.

35. Receiving Waters

The receiving waters are the groundwaters of the Antelope Valley Groundwater Basin (Department of Water Resources, Groundwater Basin No. 6-44; Basin Plan, Plate 2B).

36. Beneficial Uses

The present and probable beneficial uses of the groundwaters of the Antelope Valley Groundwater Basin No. 6-44, as set forth and defined in the Basin Plan are:

- a. Municipal and Domestic Supply (MUN);
- b. Agricultural Supply (AGR);
- c. Industrial Service Supply (IND), and
- d. Freshwater Replenishment (FRSH).

37. Water Quality Protection Standard and Compliance Period

The Water Quality Protection Standard (WQPS) consists of constituents of concern (COCs), concentrations limits, monitoring points, and the point of compliance. The COCs, monitoring points, and point of compliance for groundwater and unsaturated zone monitoring are described in MRP No. R6V-2016-PROP. This Order requires the Discharger to update concentration limits for constituents of concern listed in 40 Code of Federal Regulations (CFR), part 258, Appendix II, for California Assessment Manual (CAM) 17 metals. Concentration limits for detection monitoring parameters were updated in January 2016; this Order accepts those concentration limits.

The WQPS applies over the compliance period of the Facility. The compliance period is the number of years equal to the active life of the Facility plus a minimum of 30 years. The compliance period is the minimum period during which the Discharger must conduct a water quality monitoring program subsequent to a release from the Landfill. The compliance period must begin anew each time the Discharger initiates an evaluation monitoring program (EMP). The compliance period may be extended if the Facility is not in compliance with its WQPS.

38. Statistical and Non-Statistical Methods

Statistical and non-statistical analyses of monitoring data are necessary for the earliest possible detection of measurably significant evidence of a new release of waste from the Landfill. CCR, title 27, section 20415, subdivision (e)(7), requires statistical data analyses to determine when there is "measurably significant" evidence of a release from the WMU. CCR, title 27, section 20415, subdivision (e)(8) allows non-statistical data analyses methods that can achieve the goal of the monitoring program at least as well as the most appropriate statistical method. The monitoring parameters listed in MRP No. R6V-2016-PROP are believed to be the best indicators of a release from the Facility.

39. Detection Monitoring Program

Pursuant to CCR, title 27, sections 20385 and 20420, the Discharger is implementing a detection monitoring program (DMP) for the Facility. The DMP successfully detected significant evidence of a release from the Landfill. The Discharger conducted an EMP to evaluate the extent of the impacts to water quality and designed a CAP, described in finding 30 above. The Discharger will continue to implement the DMP in order to monitor for significant evidence of any new releases from the Landfill, as specified in MRP No. R6V-2016-PROP.

40. Evaluation Monitoring Program

An Evaluation Monitoring Program (EMP) may be required, pursuant to CCR, title 27, sections 20385 and 20420(k)(6), in order to evaluate evidence of a new release if detection monitoring and verification procedures indicate evidence of a release. The Discharger must delineate the nature and extent of the release and develop a suite of proposed corrective action measures within 90 days on initiating an EMP, unless the Discharger proposes and substantiates a longer time period for implementing the EMP.

If the EMP confirms measurably significant evidence of a release, then the Discharger must submit an Engineering Feasibility Study report proposing corrective action measures pursuant to CCR, title 27, section 20425, subdivision (b), and MRP No. R6V-2016-0037.

41. Corrective Action Program

The existing corrective action is described in finding 30. A corrective action program to remediate any future detected releases from the Facility may be required, pursuant to CCR, title 27, section 20430, if results of the evaluation monitoring program warrant a corrective action.

42. Unsaturated Zone (Soil-Gas) and Leachate Monitoring

a. *Soil Gas.* Soil gas monitoring is conducted for the unsaturated zone of the Original Area. Three locations are sampled semi-annually: P-9D, P-11D, and P-12D. MW-5 and P-10D are sampled quarterly. One of four probes at the perimeter of the Western Expansion Area is also sampled quarterly on a rotating basis. These points are measured in the field for methane, carbon dioxide, nitrogen and oxygen. The compliance level for methane is 5 percent. All field readings were 0 percent methane for all probes for the four quarters in 2015. Samples submitted for laboratory analysis in 2015 showed some trace methane concentrations, but none greater than the compliance level. VOCs are analyzed from the same monitoring points as a part of the DMP. VOCs most frequently detected during 2015 of perimeter gas probes include PCE; TCE; 1, 1-DCA, and Freon-12. In general, VOC soil gas sampling results indicate decreasing levels compared to historical concentrations in monitored probes.

This Order contains a time schedule requiring all existing eighteen soil gas monitoring points to be sampled on a one-time basis, and requires one additional existing gas probe to be added to the monitoring program. This information is needed to provide a more complete understanding of the extent of landfill gas to guide future investigations to define the extent of landfill gas in soil.

b. *Leachate Collection and Recovery Sumps.* The Western Expansion Area has a liner and leachate recovery and collection system (LCRS, described in finding 44 below) which consists in part of two leachate collection sumps. Leachate sumps are monitored quarterly, and sampled annually if liquid is present.

c. *LCRS Sump Leak Detection.* The Western Expansion Area's unsaturated zone monitoring employs leak detection pan lysimeters installed beneath the LCRS sumps for Western Expansion Areas Phases 1A, 1B, 1C, 2A and future phase 2B. The unsaturated zone leak detection lysimeters beneath Western Expansion Area leachate sumps are designated LYS1A/1B and LYS1C/2A. There was insufficient fluid to obtain a sample from the leak detection sumps during the two 2015 monitoring events. Lysimeters are monitored quarterly, and sampled semi-annually if liquid is present.



43. Discharge of Monitoring Well Purge Water

As part of the regularly scheduled groundwater sampling events, groundwater monitoring wells are purged until parameters of pH, temperature, and electrical conductivity are sufficiently stabilized to assure collection of a representative sample. Because VOCs have been detected in the aquifer beneath the Facility, the purge water may also contain these constituents at concentrations greater than background. This Order prohibits the discharge to the unlined areas of the Landfill or Facility of purge water containing concentrations of VOCs which exceed the WQPS. Purge water may be used for dust control or similar activities that do not result in ponding in the lined portions of the Landfill only.

44. Engineered Alternative to Prescriptive Standard for the Liner Design

CCR, title 27 includes prescriptive standards for waste management unit construction, but also allows for engineered alternatives to such standards. The Discharger proposed an alternative liner design consisting of (from top to bottom):

- a. A minimum of 12-inch thick protective soil cover layer;
- b. 8-ounce geotextile;
- c. Leachate Collection and Recovery System (LCRS), described below;
- d. 12-ounce cushion geotextile;
- e. 60-mil HDPE geomembrane;
- f. A double non-woven geotextile-backed geosynthetic clay liner, and
- g. Prepared subgrade.

The LCRS has been designed to maintain leachate levels of 1-foot (30 centimeters) or less on all points on the liner system. The LCRS design consists of the 9-inch thick gravel drainage layer with a network of leachate collection pipes to convey accumulated fluid to designated sump areas. The leachate collection sumps consist of a granular drainage layer and leachate collection risers made of HDPE pipe. A vadose zone lysimeter (to detect sump leakage) is installed under each sump.

The Discharger demonstrated that the alternative liner is consistent with the performance goals addressed by the prescriptive standard, and affords equivalent protection against water quality impairment. Water Board staff reviewed the Discharger's proposed engineered alternative and in Board Order No. 6-00-55 found that it meets or exceeds the standards required of engineered alternatives under CCR, title 27, thereby accepting the Discharger's proposed alternative design. This Order requires that the future landfill expansion areas (i.e., Western Expansion Area Phase 2B and Eastern Expansion Area Phases 3 through 7) are constructed using the accepted liner design and in accordance with construction specifications submitted in pre-construction Design Reports to the Water Board.

45. Preliminary Closure and Post-Closure Maintenance and Engineered Alternative Final Cover Design

The Discharger submitted a Preliminary Closure and Post-Closure Monitoring Plan (PCPCMP) dated April 1999 by Earth Tech, Inc. for the Original Area and the Western and Eastern Expansion Areas. The plan generally proposes in-place closure of the waste and a 30-year period of site monitoring, pursuant to CCR, title 27, section 21180. The monitoring media include the unsaturated zone, groundwater, and final cover materials. The plan was deemed complete and technically adequate by Board staff as an attachment to the JTD, as revised in March 2000. Water Board acceptance of the PCPCMP was granted in Board Order 6-00-55. Amended Order 6-00-55A1 also accepted the Discharger's proposed engineered alternative final cover design. The proposed engineered alternative final cover design is a 3-foot thick evapotranspirative (ET) cover, compacted to 90 percent relative compaction and within 2 percent of the optimum moisture content as measured by Standard Proctor test (ASTM D 698).

The 1999 PCPCMP was revised in May 2006, May 2010, March 2011, and most recently in September 2012. This Order requires that the Discharger review the PCPCMP annually to determine if significant changes in the operation of the Landfill warrant an update of the plan.

46. Financial Assurance

The Discharger has provided documentation that financial assurance has been developed for closure, post-closure maintenance, and potential corrective action requirements. The California Integrated Water Management Board (now California Department of Resources Recycling and Recovery, or CalRecycle), in a letter dated April 4, 2016, reviewed the documentation provided by the Discharger, and stated that the financial assurance meets the requirements of Section 22244 of CCR, title 27. This Order requires that the Discharger demonstrate in an annual report that the amount of financial assurance (for Closure, Post-Closure and Corrective Action Monitoring) is adequate, or increase the amount of financial assurance.

47. Other Considerations and Requirements for Discharge

Pursuant to CWC, section 13241, the requirements of this Order take into consideration:

- a. *Past, present, and probable future beneficial uses of water.* This Order identifies existing groundwater quality and past, present, and probable future beneficial uses of water, as described in findings 28, 29 and 36, respectively. The proposed discharge will not adversely affect present or probable future beneficial uses of water including municipal and domestic supply, agricultural supply, industrial service supply, and freshwater replenishment, because the discharge is authorized only to the Facility and this Order requires corrective action to address groundwater contamination from the Original (unlined) Area, and requires monitoring to assess corrective action effectiveness and detect any future impacts to groundwater quality.

- b. *Environmental characteristics of the hydrographic unit under consideration including the quality of water available thereto.* Findings 21 through 26 and 31 describe the environmental characteristics and quality of water available.
- c. *Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area.* The requirements of this Order should result in improving groundwater conditions based on implementation of required corrective action plans. The Water Board will use its existing authority and this Order to ensure protection of water quality from these discharges.
- d. *Economic considerations.* Water Quality Objectives established in the Basin Plan for the Antelope Valley Groundwater Basin do not subject the Discharger to economic disadvantage as compared to other similar discharges in the Region. This Order will require the Discharger to submit proposals compliant with the requirements of CCR, title 27, and is reasonable.
- e. *The need for developing housing within the region.* The Discharger is not responsible for developing housing within the region. This Order provides for capacity to dispose of municipal solid waste in the Facility.
- f. *The need to develop and use recycled water.* The Discharger proposes the use of recycled water at this Facility for dust control. The source of the recycled water is the LASCSD, which is an authorized recycled water producer regulated under Board Order No. R6V-2006-0009. The use of recycled water is authorized under this Board Order, and requires compliance with the specifications and provisions Board Order No. R6V-2006-0009, and LASCSD's *Requirements for Recycled Water Users*.

48. Human Right to Water

CWC section 106.3 establishes a state policy that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes and directs state agencies to consider this policy when adopting regulations pertinent to those uses of water. This Order promotes that policy by requiring corrective action to address groundwater contamination from the Original (unlined) Area, and requires monitoring to assess corrective action effectiveness and detect any future impacts to groundwater quality.

49. California Environmental Quality Act

The CEQA Lead Agency is the Regional Planning Commission of Los Angeles County. The Lead Agency adopted Findings of Fact and a Statement of Overriding Consideration regarding the final Environmental Impact Report (EIR) for the Facility, dated April 23, 1998, through the State Clearinghouse (SCH No. 1993101036) to comply with the CEQA. An addendum to the May 1998 was filed with SCH dated June 6, 2000, followed by a Supplemental EIR dated October 2011.

The Lahontan Water Board, acting as a CEQA Responsible Agency in compliance with CCR, title 14, section 15096, has exercised its independent judgment when considering the EIR for the Project and has incorporated into this Order the specified mitigation measures from the EIR to reduce potential impacts to hydrology and water quality to a less than significant level. Those mitigation measures are:

- a. Requiring a liner and leachate control and recovery system;
- b. Monitoring surface water quality in accordance with a Storm Water Pollution Prevention Plan or equivalent document;
- c. Implementing a groundwater quality monitoring program, and
- d. Decommissioning existing monitoring wells according to protocols mandated by the California Department of Water Resources.

The Lahontan Water Board finds that, with the above mitigation measures, and additional requirements, specifications, prohibitions and monitoring incorporated into this Order, the Project will not have a significant effect on the environment.

50. Technical and Monitoring Reports

The Discharger must submit technical and monitoring reports in compliance with this Order as described in Monitoring and Reporting Program (MRP) No. R6V-2016-0037

51. Notification of Interested Parties

The Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharger requirements for this Facility and has provided them with an opportunity to submit their written views and recommendations.

52. Right to Petition

Any person aggrieved by this action of the Water Board may petition the State Water Board to review the action in accordance with California Water Code, section 13320, and CCR, title 23, sections 2050 et sec. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet at [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality), or will be provided in hard copy or electronic format upon request.

53. Consideration of Public Comments

The Water Board, in a public meeting held on June 8, 2016, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that the Discharger shall comply with the following:

**I. DISCHARGE SPECIFICATIONS**

**A. Discharge Limits for Treated Auto Shredder Waste**

1. The Discharger must not accept or discharge TASW with concentrations of hazardous constituents that exceed the limits listed below in the extract of the waste or treatment residual.

**Table 3.** Discharge Limits for TASW.

Constituent	Concentration	Units <sup>6</sup>
Cadmium and/or cadmium compounds	1.0	mg/L
Chromium (total) chromium compounds	560	mg/L
Chromium (VI) compounds	5.0	mg/L
Copper and/or copper compounds	25	mg/L
Lead and/or lead compounds	50	mg/L
Mercury and/or mercury compounds	0.2	mg/L
Nickel and/or nickel compounds	20	mg/L
Zinc and/or zinc compounds	250	mg/L
Polychlorinated biphenyls (PCBs)	5.0	mg/L
Polychlorinated biphenyls (PCBs)	50	mg/Kg

2. Sampling requirements for generators of TASW shall be included in the Discharger's updated Waste Approval Plan, as required by this Order in section III.V.D.b.
3. TASW waste samples from TASW generators shall be sampled as described in the Discharger's Waste Approval Plan and analyzed according to the Waste Extraction Test (WET) procedure described in CCR, title 22, section 66700.

**B. Contaminated Soils Disposal Criteria**

Contaminated soils may not be accepted for Alternative Daily Cover (ADC) or reuse at the Facility unless the best management practices (BMPs) described in Order section V.E.e.ii. have been installed as specified in the Discharger's accepted revised SWPPP. The Discharger may accept contaminated soils at the Facility in accordance with the Waste Acceptance Plan described in finding 12, including waste acceptance criteria for contaminated soils. Contaminated soils may be used or disposed of at the Facility as described below.

**1. Unrestricted Onsite Use of Contaminated Soils**

Clean and slightly contaminated soils, for which waste concentrations do not exceed the following threshold criteria may be discharged within the lined or unlined portions of the Landfill, or beneficially used on the Facility property without restriction.

<sup>6</sup> Milligrams per liter (mg/L); milligrams per kilograms (mg/kg)

- a. For petroleum hydrocarbon contaminated soils, the threshold concentration is a total petroleum hydrocarbon (TPH) concentration of 10 mg/kg in the gasoline (C<sub>4</sub>-C<sub>12</sub>) or diesel (C<sub>13</sub>-C<sub>22</sub>) carbon-chain range, or 500 mg/kg in the C<sub>23</sub> or greater carbon-chain range.
- b. Threshold concentration levels for constituents other than petroleum hydrocarbons must not exceed any of the following criteria for unrestricted site use:
  - i. Soils with an average, contaminant-specific concentration that does not exceed a Preliminary Remediation Goal (PRG, <http://www.epa.gov/region9/superfund/prg/index.shtml>) for residential sites established by the U.S. Environmental Protection Agency (USEPA).
  - ii. Soils with an average, contaminant-specific concentration that does not exceed a California Human Health Screening Level (CHHSL, <http://www.calepa.ca.gov/brownfields/documents/2005/CHHSLsGuide.pdf>) for residential sites established by the California Environmental Protection Agency (Cal-EPA).
  - iii. Soils for which a PRG or CHHSL has not been established with an average, contaminant-specific concentration that does not exceed, on a per weight basis (for example, soil results reported in mg/kg should be compared to an MCL in mg/L), 100 times of maximum contaminant level (MCL) established by the USEPA or the State of California Division of Drinking Water.
  - iv. Constituents that naturally occur in soils (e.g., metals) may exceed the threshold concentration levels provided above (b.i, b.ii, b.iii). Average concentrations shall be considered for natural occurring constituents in the regional area. These constituents may be considered for beneficial reuse or disposal.
  - v. The waste acceptance criteria for arsenic in soil is set at 12 mg/kg, based on a regional background level study conducted by the California Department of Toxic Substances Control for Los Angeles County (see finding 17). The Discharger may accept soil containing average arsenic levels which do not exceed 12 mg/kg for unrestricted onsite use.

## 2. Criteria for Use of Contaminated Soils as Alternative Daily Cover in the Lined Landfill

Soils that exceed the criteria for unrestricted onsite beneficial use (I.B.1 above) and meet the following criteria may be used as ADC in lined portions of the Landfill only.

- a. Soils contaminated with an average concentration less than 500 mg/kg in the C<sub>4</sub>-C<sub>12</sub> carbon-chain range, or less than 1,000 mg/kg in the C<sub>13</sub>-C<sub>22</sub> or up to 8,000 mg/kg for C<sub>23</sub> or higher carbon-chain range.
- b. Threshold concentration levels for constituents other than petroleum hydrocarbons must not exceed the following levels for use as ADC within the lined portions of the Landfill:

- i. Soils with an average, contaminant-specific concentration that does not exceed a PRG for industrial sites established by the USEPA.
- ii. Soils with an average, contaminant-specific concentration that does not exceed a CHHSL for industrial sites established by the Cal-EPA.
- iii. Constituents that naturally occur in soils (e.g., metals) in the area at concentrations above the threshold concentration levels provided above (b.i and b.ii) may be considered for beneficial reuse or disposal in the lined portions of the Landfill. Any proposal for alternate constituent levels shall include a method(s) to demonstrate the constituents are naturally occurring and that the levels proposed for acceptance will not result in exceedances of water quality standards in surface or groundwaters surrounding the landfill.

### 3. Criteria for Disposal of Contaminated Soils to the Lined Landfill

- a. Soils contaminated with THP, VOCs, SVOCs, organochlorine pesticides, PCBs, or CAM metals may be disposed in the lined portion of the Landfill if the Discharger determines that the contaminated soils are not classified as designated waste. To satisfy this requirement, the Discharger has developed Waste Acceptance Criteria, consistent with *The Designated Level Methodology for Waste Classification and Cleanup Level Determination*<sup>7</sup> or alternative methodology. Factors considered in developing waste acceptance criteria included:
  - i. Water quality objectives – Consistent with the Basin Plan’s municipal and domestic supply beneficial uses for groundwater resources in the Region, the Discharger shall use the most stringent Basin Plan objectives, as the water quality objective;
  - ii. A leakage flow rate based on landfill-specific design criteria;
  - iii. A groundwater flow rate based on landfill-specific hydro-geologic conditions;
  - iv. Equilibrium partitioning of waste constituents between leachate and soils; and
  - v. Equilibrium partitioning of waste constituents between leachate and groundwater with consideration for dilution attenuation.
- b. This Order accepts the Discharger's May 6, 2016, *Revised Waste Acceptance Criteria for Soil*, prepared by Geosyntec Consultants, for disposal at the lined Landfill.
- c. Soils contaminated with an average TPH concentration in all carbon-chain ranges higher than 8,000 mg/kg shall be not accepted or discharged at the Facility.

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<sup>7</sup> A report developed by the staff of the Central Valley Regional Water Board presenting a waste classification system from a water quality perspective can be found at [http://www.waterboards.ca.gov/rwqcb5/plans\\_policies/guidance/dlm.pdf](http://www.waterboards.ca.gov/rwqcb5/plans_policies/guidance/dlm.pdf).

### **C. Storm Water Discharges**

1. The Discharger shall file a revised Storm Water Pollution Prevention Plan (SWPPP) or equivalent document within **45 days of adoption of this Order**. The SWPPP shall contain the elements to ensure waste in discharges of storm water are reduced or prevented to achieve the best practicable treatment level using controls, structures, and management practices as described in Order section V.E.
2. The applicant shall comply with all storm water monitoring, response, and reporting requirements described in MRP No. R6V-2016-0037.

### **D. Recycled Water Use**

The use of recycled water under this Order shall comply with requirements and ordinances adopted by the Los Angeles County Sanitation District as required by Board Order No. R6V-2006-0009, *Master Water Recycling Requirements*, Los Angeles County Sanitation District No. 14 (Lancaster), Disinfected Tertiary Recycled Water.

## **II. RECEIVING WATER LIMITATIONS**

The discharge shall not cause the existing water quality to be degraded nor shall the discharge cause a violation of any applicable water quality standard for receiving water adopted by the Water Board or the State Water Board as required by the California Water Code and regulations adopted hereunder.

Under no circumstances shall the Discharger cause the presence of the following substances or conditions in groundwaters of the Antelope Valley Groundwater Basin.

1. Bacteria – Groundwaters designated as MUN, the median concentration of coliform organisms, over any seven-day period, shall be less than 1.1 Most Probable Number per 100 milliliters (MPN/100 mL).
2. Chemical Constituents – Groundwaters designated as MUN shall not contain concentrations of chemical constituents in excess of the Primary MCL or Secondary MCL based upon drinking water standards specified in the following provisions of CCR, title 22: Table 64431-A of section 64431 (Inorganic Chemicals), Table 64444-A of section 64444 (Organic Chemicals), Table 64449-A of section 64449 (Secondary MCLs – Consumer Acceptance Contaminant Levels), and Table 64449-B of section 64449 (Secondary MCLs – Consumer Acceptance Contaminant Level Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.



Groundwaters shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

3. Radioactivity – Groundwater designated MUN shall not contain concentrations of radionuclides in excess of limits specified in CCR, title 22, section 64442, Table 64442, and section 64443, Table 64443, including future changes as the changes take effect.
4. Taste and Odors – Groundwaters shall not contain taste or odor-producing substances in concentrations that cause a nuisance or that adversely affect beneficial uses. For groundwaters designated as MUN, at a minimum, concentrations shall not exceed adopted Secondary MCLs as specified in CCR, title 22, section 64449, Table 64449-A (Secondary MCLs – Consumer Acceptance Contaminant Level) and Table 64449-B (Secondary MCLs – Consumer Acceptance Contaminant Levels Ranges) including future changes as the changes take effect.
5. Color – Groundwaters must not contain color-producing substances from tracers in concentrations that cause a nuisance or that adversely affect beneficial uses.
6. Toxic Substances – Any presence of toxic substances in concentrations that individually, collectively, or cumulatively cause a detrimental physiological response in humans, plants, animals, or aquatic life is prohibited.

### **III. REQUIREMENTS AND PROHIBITIONS**

#### **A. General**

1. The discharge must not cause or threaten to cause a condition of pollution or nuisance as defined in Water Code, section 13050.
2. The discharge of waste, as defined in Water Code, section 13050, subdivision (d), that causes a violation of any narrative Water Quality Objective (WQO) contained in the Basin Plan, including the Nondegradation Objective, is prohibited.
3. Where any numeric or narrative WQO contained in the Basin Plan is already being violated, any discharge which causes further degradation or pollution is prohibited.
4. The discharge of waste except to the authorized disposal areas is prohibited.
5. The discharge of TASW, treated wood waste, or sewage sludge to unlined areas of the Landfill is prohibited.
6. The discharge of solid or liquid waste, leachate, or any other deleterious material to surface waters or groundwater is prohibited.

7. Leachate may be recirculated back into the lined operational working areas or utilized for dust control over the lined areas of the Facility, consistent with CCR, title 27, Section 20340(g).
8. Soils contaminated with an average TPH concentration higher than 8,000 mg/kg shall not be accepted, reused onsite or discharged at the Landfill.
9. Soils exceeding the criteria established in Order I.B.2 and meeting the criteria in Order I.B.3 may not be stockpiled for future use.
10. No hazardous or designated wastes shall be discharged to or used as alternative daily cover at the Facility as defined in CCR, title 23, chapter 15, section 2521 and CCR, title 27, section 20210, respectively.
11. Only non-friable asbestos containing material may be accepted for disposal at the Landfill.
12. Surface drainage from offsite areas and internal site drainage from surface or subsurface sources must not contact or percolate through solid wastes discharged at the Facility.
13. The exterior surfaces of the Landfill must be graded to promote lateral run-off of precipitation and to prevent ponding.
14. The Facility must be protected from inundation, washout, or erosion of wastes and erosion of covering materials resulting from a 24-hour, 100-year storm or a flood having a 100-year return period.
15. The Discharger must notify the Water Board within one business day of any flooding, slope failure or other change in site conditions that could impair the integrity of the Facility or of precipitation and drainage control structures. The Discharger shall correct any failure that threatens the integrity of the landfill, liner or cap, after approval of the method, in accordance with a schedule established by the Water Board as specified in CCR, title 27, section 21710, subdivision (c)(2).
16. Water used for dust control shall be limited to a minimal amount. A "minimal amount" is defined as that amount which will not result in run-off.
17. Purge water containing concentrations of VOCs in excess of the WQPS shall be used for dust control or similar uses that do not result in ponding in the lined portions of the Landfill only.
18. The amount of sewage sludge accepted at the Facility shall not exceed 10 tons/day. Sewage sludge containing less than 50 percent solids shall not be accepted for disposal at the Facility.

19. The following materials shall not be used as daily, intermediate or final cover at the Landfill unless specifically approved for such use by the LEA and the Water Board: treated automobile shredder waste, cement kiln dust, dredge spoils, foundry sands, processed exploration waste, production wastes, shredded tires, and foam.
20. The Discharger must maintain in good working order any control system or monitoring device installed to achieve compliance with this Order.
21. The Discharger must maintain onsite a copy of the non-hazardous waste classification granted by the DTSC for each generator of TASW.
22. The discharge of TASW at the lined Landfill facility is prohibited if DTSC makes the determination that this material requires management at a Class I facility or if the Discharger fails to obtain a non-hazardous waste classification from DTSC for TASW. The discharge of untreated auto shredder waste is prohibited.
23. Two years prior to the anticipated closure of the Landfill, the Discharger shall submit to the Water Board, for review and approval, a Final Closure and Post Closure Monitoring Plan in accordance with CCR, title 27, section 21780.
24. The Discharger must at all times maintain adequate and viable financial assurances acceptable to the Water Board Executive Officer for costs associated with closure, post-closure monitoring, and corrective action for all known or reasonably foreseeable releases.

## **B. Landfill Construction Requirements**

1. The Discharger proposes to construct Phase 2B of the Western Expansion Area and Phases 3 through 7 of the Eastern Expansion Area with an accepted engineered alternative composite liner system (finding 44) and leachate collection and recovery system. The Discharger must construct the liner system and leachate collection and recovery system(s) in accordance with the construction details contained in Design Reports and engineering plans submitted to Water Board for approval prior to development of each lined Landfill phase.
2. Design Reports shall contain Construction Quality Assurance (CQA) plans, as well as detailed engineering plans and specifications for each major design element, including at a minimum, the accepted elements of the liner and LRCS as described in the RWD/JTD dated September 2012. Plans shall be submitted **120 days prior to construction** of a new lined Landfill phase, and shall be prepared, signed and stamped by a California-registered Civil Engineer or Certified Engineering Geologist. CQA Plans will conform to all of the requirements specified in CCR, title 27, section 20324.
3. The Discharger shall adhere to the accepted engineering plans, specifications, and technical reports submitted with a RWD/JTD and all requirements contained within this Order.

### **C. Electronic Submittal of Information**

Pursuant to CCR, title 23, section 3890, the Discharger must submit all reports, including soil, soil vapor, and water data, prepared for the purpose of subsurface investigation or remediation of a discharge of waste to land subject to Division 2 of title 27 electronically over the internet to the State Water Board's Geotracker system. This requirement is in addition to, and not superseded by, any other applicable reporting requirement.

## **IV. WATER QUALITY MONITORING AND RESPONSE PROGRAMS**

### **A. Detection Monitoring Program**

The Discharger must maintain a DMP as required in CCR, title 27, section 20420. In conjunction with a CAP, the Discharger shall continue to conduct a DMP, as necessary, to provide the best assurance of the detection of subsequent releases from the Landfill.

### **B. Evaluation Monitoring Program**

The Discharger shall re-establish a revised EMP whenever there is measurably significant evidence and/or significant physical evidence of a new release from the Landfill pursuant to CCR, title 27, section 20425. Within 90 days of initiating an EMP, the Discharger must delineate the nature and extent of the release, as well as develop, propose, and support corrective action measures to be implemented in a CAP, or make a demonstration to the Water Board that there is a source other than the Landfill that caused evidence of a release.

### **C. Corrective Action Program**

The Discharger is implementing a CAP as required pursuant to CCR, title 27, section 20430(c), and described in finding 30. The Discharger shall continue implementing the CAP, or any accepted revised CAP, until it can be demonstrated to the satisfaction of the Water Board that the concentrations of all COCs are reduced to levels below their respective concentration limits throughout the entire zone affected by the release, unless a Concentration Limit Greater than Background has been established. Any modifications to the CAP shall be submitted to the Water Board for review prior to implementation.

### **D. Water Quality Protection Standard**

1. The WQPS consists of COCs, concentration limits, monitoring points, and the point of compliance. The COCs, concentration limits, monitoring points, and point of compliance for groundwater and unsaturated zone monitoring are described in MRP No. R6V-2016-PROP, which is made part of this Order. This Order requires the Discharger to update the concentration limits for CAM-17 metals, as specified in Order section V.F. Updated concentration limits for groundwater detection monitoring parameters were proposed by the Discharger in January 2016. This Order accepts those proposed limits.

2. At any given time, the concentration limit for each COC must be equal to the background data set of that constituent unless a Concentration Limit Greater than Background has been established.
3. If the Discharger or Water Board Executive Officer determines that concentration limits were or are exceeded, the Discharger may immediately institute verification procedures upon such determination as specified below or, within 90 days of such determination, submit a technical report pursuant California Water Code section 13267, subdivision (b), proposing an EMP meeting the provisions of CCR, title 27, section 20420, subdivision (k)(5), or make a demonstration to the Water Board that there is a source other than the Landfill that caused evidence of a release. In the event of a new release, unless the technical report proposing an EMP recommends and substantiates a longer period, the Discharger will only have 90 days, once the Water Board authorizes the initiation of the EMP, to complete the delineation, develop a suite of proposed corrective action measures, and submit a proposed CAP for adoption by the Water Board.
4. Monitoring of the groundwater and unsaturated zone must be conducted to evaluate the effectiveness of the CAP and to provide the best assurance of the early detection of any new releases from the Landfill.

#### **E. Data Analysis**

1. Within 45 days after completion of sampling, the Discharger must determine at each Monitoring Point whether there is measurably significant evidence and/or significant physical evidence of a new release from the Landfill. The analysis must consider all monitoring parameters and COCs. The Executive Officer may also make an independent finding that there is measurably significant evidence and/or significant physical evidence of a new release.
2. To determine whether there is "measurably significant" (as defined in CCR, title 27, section 20164) evidence of a new release from the Landfill, the Discharger must use approved statistical data analysis methods to evaluate point of compliance groundwater data, as required by CCR, title 27, section 20415, subdivision (e).
3. To determine whether there is significant physical evidence of a new release from the Landfill, the Discharger must use non-statistical methods. Significant physical evidence may include, but is not limited to, unexplained volumetric changes in the Landfill, unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of leachate migration, unexplained water table mounding beneath or adjacent to the Facility, and/or any other change in the environment that could reasonably be expected to be the result of a new release from the Landfill. Other non-statistical evidence of a release may include trends of increasing concentrations of one or more constituents over time.

4. If there is measurably significant evidence and/or significant physical evidence of a new release, the Discharger must immediately notify the Water Board verbally by telephone as to the monitoring points and constituent(s) or parameters involved followed by written notification sent via electronic mail within seven days (see "Unscheduled Reports to be Filed With the Water Board," MRP No. R6V-2016-0037). The Discharger must initiate the verification procedures, as specified in Order section IV.F below.

#### **F. Verification Procedures**

Whenever there is a determination by the Discharger or Executive Officer that there is measurably significant evidence or significant physical evidence of a new release, the Discharger must initiate verification procedures as specified below.

1. The Discharger must either conduct a composite retest using data from the initial sampling event with all data obtained from the resampling event or must conduct a discrete retest in which only data obtained from the resampling event must be analyzed to verify evidence of a release. Alternatively, the Discharger may perform a pass 1-of-3 retesting approach using quarterly samples, as an engineered alternative.
2. The verification procedure need only be performed for the constituent(s) that has shown a measurably significant evidence of a release, and must be performed for those monitoring points at which a release is indicated.
3. Within seven days of receiving the results of the last laboratory analyses for the retest, the Discharger must report to the Water Board, by electronic mail, the results of the verification procedure, as well as all data collected for use in the retest.
4. If the Discharger or Executive Officer verifies that there is or was evidence a release, the Discharger is required to submit a technical report to the Water Board within 90 days of such a determination, pursuant to Water Code, section 13267, subdivision (b). The report must propose an evaluation monitoring program or make a demonstration to the Water Board that there is a source other than the Landfill that caused evidence of a release (see "Unscheduled Reports to be Filed With the Water Board," MRP No. R6V-2016-0037).
5. If the Discharger declines to conduct verification procedures, the Discharger must submit a technical report, as specified in Order section IV.G below.

#### **G. Technical Report Without Verification Procedures**

If the Discharger chooses not to initiate verification procedures after there has been a determination made for evidence of a release, a technical report must be submitted pursuant to section 13267(b) of the California Water Code. The report must propose an EMP or attempt to demonstrate that the release did not originate from the Facility.

## H. Monitoring and Reporting

1. Pursuant to Water Code, section 13267, subdivision (b), the Discharger must comply with the monitoring and reporting requirements as established in the attached MRP No. R6V-2016-0037, and as specified by the Executive Officer. The MRP may be modified by the Water Board Executive Officer.
2. The Discharger must comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of MRP No. R6V-2016-0037.

## V. TIME SCHEDULES

### A. Comprehensive Soil Gas Sampling Event

1. **No later than 30 days of this Order being issued**, conduct one-time sampling of all existing soil gas probes, including multiple ports in each probe, installed in the Original and Western Expansion Areas. Samples shall be analyzed for the constituents of concern for soil gas monitoring listed in MRP No. R6V-2016-0037.
2. **No later than 60 days of the sampling event**, submit soil gas sampling results in a letter report. Include a map of all sampled soil gas probes, and a tabulation of the historic (last 10 years) of data for each soil gas probe, as available. Discuss any data trends observed.

### B. Groundwater, Soil Gas, and Monitored Natural Attenuation Evaluations

**No later than 120 days of this Order being issued**, submit the following items described in V.B.1 through V.B.4:

1. Groundwater Investigation. Submit a workplan to investigate the extent of VOCs and breakdown products in groundwater originating from the Facility. The workplan shall include, at the minimum, the following items:
  - a. A proposal for installation of additional monitoring wells to fully define the lateral and vertical of VOC plumes in groundwater, including at a minimum, one monitoring well south (downgradient) of EX-9 and EX-10, and one monitoring well southeast of MW-5 and EX-10. Additionally, one monitoring well is needed upgradient of MW-1, because VOCs are detected in that monitoring well. The proposal shall include designs for monitoring wells constructed to ensure that wells do not provide a conduit for soil gas transfer to groundwater, and shall propose depth-discrete (multi-level) sampling for vertical definition of VOC plumes, including breakdown byproduct plumes.

- b. A plan to abandon MW-5 and replace with a new corrective action program well MW-5R. The plan shall describe the proposed construction details of the replacement well to ensure that it will provide for vertical definition of VOCs in groundwater, and does not provide a conduit for soil gas transfer to groundwater. Abandonment of MW-5 shall be in accordance with State of California Department of Water Resources and Los Angeles County requirements.
2. Soil Gas Extent Investigation and Source Control Evaluation. Submit a workplan to investigate the extent of VOCs in soil originating from the Facility. The workplan shall include, at the minimum, the following items:
  - a. A method to delineate the extent of soil gas VOC plumes originating at the Facility.
  - b. A proposal to evaluate the current landfill gas control system, its ability to provide source control of the extent of VOCs soil gas plumes, and if additional landfill or soil gas control is needed to reduce VOC concentrations in groundwater.
  - c. Provide operational screening levels for soil gas concentrations of VOCs. Include the concentration of soil gas for each constituent that may cause an exceedance of the WQPS in groundwater. These levels are intended as "early-warning" targets to assess the operational efficiency of the landfill gas control system.
3. Monitored Natural Attenuation Evaluation. Propose evaluation(s) to demonstrate monitored natural attenuation (MNA) is an appropriate approach to restore the aquifer water quality to non-detectable levels of VOCs (including breakdown products) and prevent impacts to human health and the environment. The *Final Report on Monitored Natural Attenuation Evaluation and Application in the Lahontan Region*<sup>8</sup> (*Final MNA Report*) contains guidance on demonstrating the appropriateness of MNA. The evaluation(s) shall consider the *Final MNA Report*, and include, at the minimum, the following items:
  - a. Elements to demonstrate that the site has been (or will be) adequately characterized for the purposes of an evaluation of MNA; sources of contamination are or expected to be controlled and no longer contributing or threatening to contribute to groundwater contamination, and the plume is stable or decreasing and it is reasonable to expect it to continue decreasing.
  - b. An evaluation of site-specific conditions which support favorable MNA processes. Describe MNA processes which will be effective considering groundwater geochemical conditions and constituents of concern. Discuss evidence from historic monitoring data showing reductive dechlorination of VOCs (i.e., formation of PCE breakdown products).

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<sup>8</sup> Prepared by Water Board staff, March 2016. Available at [http://www.waterboards.ca.gov/lahtontan/docs/final\\_report\\_sg.pdf](http://www.waterboards.ca.gov/lahtontan/docs/final_report_sg.pdf)



- c. A discussion of the timeframe for source control and MNA to reduce VOC concentrations in groundwater to background values considering rates of degradation and contaminant transport based on site-specific geochemical and hydrogeologic conditions. Compare the estimated timeframe of MNA remediation to timeframes estimated for other more active methods, and discuss the reasonableness of MNA considering the guidance in the *Final MNA Report*.
  - d. Demonstrate there is no threat to human health or the environment considering all pathways:
    - i. Existing and anticipated future beneficial use of groundwater (e.g., municipal or domestic supply, agricultural supply, industrial supply, and freshwater replenishment);
    - ii. Vapor emissions (indoor and outdoor);
    - iii. Direct contact and inhalations (e.g., via showers), or
    - iv. Discharge to surface water.
4. Schedule for Implementation and Reporting. Include a proposed schedule for implementing the evaluations described in V.B.1 through V.B.3 above and submitting technical report(s).

**C. Final Report on Reclaimable Anaerobic Composter (RAC)**

**No later than 180 days of this Order being issued**, submit a report discussing the removal of the RAC infrastructure. The report shall include, at a minimum:

- a. A description of all actions taken to remove RAC infrastructure;
- b. A discussion of any evidence of leakage of the RAC pods, any samples taken, and whether soils were excavated;
- c. If soils were excavated, state the volume removed and where disposed;
- d. Sampling results for excavated soils;
- e. Photographs showing the excavation, bottom of the pods, sampling locations, any evidence or lack thereof of pod leakage, and
- f. Recommendations for additional actions, if any, to ensure clean closure of the RAC.

**D. Updated Waste Approval Plan (WAP)**

**No later than 90 days of this Order being issued**, submit an updated WAP. The updated WAP shall incorporate:

- a. The Discharger's accepted Waste Acceptance Criteria, dated May 6, 2016, prepared by Geosyntec for Waste Management, and including the accepted background arsenic value of 12 mg/kg for soil;
- b. Monitoring and reporting requirements for generators of TASW. These requirements are currently contained in Appendix S of the Discharger's September 2012 JTD, and shall be specified in the updated WAP. TASW samples shall be analyzed according to the Waste Extraction Test (WET) procedure described in CCR, title 22, section 66700.
- c. Updated information in the WAP Table 2 to include analytical requirements for treated wood waste;
- d. Minimum volumetric sampling requirements to accept contaminated soils as follows:

<b>Cubic Yards (CYs) of Soil</b>	<b>No. of Samples</b>
Less than 100*	2
101 to 500	4
500 to 2500	6
For each 500 CY greater than 2500**	1 additional sample

\* For quantities less than 20 CYs, no sampling is required.

\*\* For quantities greater than 20,000 CTs, an alternative sampling frequency may be proposed.

**E. Revised Storm Water Pollution Prevention Plan (SWPPP)**

**No later than 45 days of this Order being issued**, submit the following items:

A revised SWPPP or equivalent document describing facility-specific Best Management Practices (BMPs) to limit constituents in contaminated soils, related wastes, or foreseeable breakdown byproducts from entering storm water. The revised SWPPP shall include, at a minimum, the following elements:

- a. *Facility Information*. A list of site contacts including persons responsible for assisting with the implementation of the SWPPP.
- b. *Site Map*. A site map that illustrates: the Facility boundary; all storm water drainage areas within the Facility and the flow direction of each drainage area; locations of storm water collection and conveyance systems, including associated discharge locations and directions of flow; locations of storm water monitoring points; locations of structural control measures that affect run-on; and locations of all industrial storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment

storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, cleaning and material reuse areas, and other areas of industrial activity that may have potential pollutant sources.

- c. *List of Industrial Materials.* A list of industrial materials handled at the Facility, the locations where each material is stored and handled, as well as the typical quantities and handling frequency.
- d. *Potential Pollutant Sources.* A description of all potential pollutant sources including industrial processes, material handling and storage areas, dust and particulate generating activities, non-storm water discharges, and erodible surfaces.
- e. *Best Management Practices.* A narrative description of each minimum and/or advanced BMP to be implemented at the Facility, as well as a summary table that identifies each area of industrial activity, the associated pollutant sources and pollutants, and the specific BMPs being implemented.
  - i. The following minimum BMPs must be implemented and maintained to reduce or prevent pollutants in storm water discharges: good housekeeping; preventative maintenance; spill and leak prevention response; material handling and waste management; erosion and sediment controls; an employee training program; and quality assurance and record keeping.
  - ii. The revised SWPPP shall discuss the specific sediment and erosion control BMPs selected and implemented to address requirements of this Order. Facility-specific BMPs shall include, but not be limited to:
    - 1) Procedures to restrict the use of contaminated soils or related wastes during periods of wet weather so that the contribution of waste constituents and foreseeable breakdown byproducts to surface water runoff is limited.
    - 2) Grading and drainage diversion facilities that control surface water run-on and run-off to limit interaction with wastes exposed in landfill working areas.
    - 3) Drainage retention facilities to capture or control surface water that may come in contact with contaminated soil used for daily cover to not contribute to storm water run-off from the 85th percentile 24-hour storm event, as determined from local, historical rainfall records.

- f. *Storm Water Monitoring Plan.* The SWPPP shall include a storm water monitoring plan that contains the following elements:
- i. Monitoring Points. The storm water discharge monitoring locations shall be selected such that samples collected are representative of storm water discharge leaving each drainage area identified for the Facility. The storm water discharge monitoring locations must be identified on the site plan in the SWPPP.
  - ii. Storm Water Sampling. The Discharger shall collect storm water samples from each storm water discharge monitoring location, and analyze for all monitoring parameters in accordance with the frequencies listed in Attachment A of MRP R6V-2016-PROP. All storm water samples, with the exception of pH, are to be analyzed by a California state-certified laboratory using the USEPA analytical methods listed in Attachment A or the most recently approved SW-846 USEPA method or other equivalent USEPA method. An alternate method may be proposed and used if acceptable to the Executive Officer.
  - iii. Visual Observations. Monthly, the Discharger shall visually observe and document, during normal operating hours, each drainage area for the following: the presence or indications of prior, current, or potential non-storm water discharges and their sources; authorized non-storm water discharges, their sources, and associated BMPs; and all potential pollutant sources. Visual observations shall also be conducted at the same time that storm water sampling occurs. At the time a storm water sample is collected, the Discharger shall observe and document the discharge for the following.
    - 1) Visually observe and record the presence or absence of floating and suspended materials, oil and grease, discolorations, turbidity, odors, trash/debris, and source(s) of any discharged pollutants.
    - 2) In the event that a discharge location is not visually observed during the sampling event, the Discharger shall record which discharge locations were not observed during sampling or that there was no discharge from the discharge location.
  - iv. Monitoring Parameters. The Discharger, in its revised SWPPP, shall identify specific storm water monitoring parameters for each monitoring point. The monitoring parameters shall be selected from Table 1 of the MRP, and include, at a minimum for each point: pH, oil and grease, total suspended solids and total iron. The SWPPP shall provide a rationale for the selected parameters for each monitoring point, considering drainage area and source of run-off for each point, and waste constituents which have the potential to be present (e.g., TPH-contaminated soils, treated auto shredder waste, treated wood waste, etc.).

## F. Updated Concentration Limit Report

**No later than 90 days of this Order being issued**, submit a report proposing updated concentration limits for constituents of concern listed in 40 CFR, part 258, Appendix II, CAM-17 metals<sup>9</sup>. Concentration limits shall be determined by a statistical method meeting the requirements of CCR, title 27, section 20415(e)(8)(E). The report shall include the data used to develop each limit, and a description of the statistical basis for each limit. 2016 concentration limits for detection monitoring parameters are accepted in this Order.

## VI. PROVISIONS

### A. Rescission of Waste Discharge Requirements

Board Order Nos. 6-00-55, 6-00-55A1 and MRP No. 6-00-55 are hereby rescinded.

### B. Standard Provisions

The Discharger must comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, in Attachment "C," which is attached to and made part of this Order.

### C. Closure and Post-Closure

Previous Water Board Orders 6-00-55 and 6-00-55A1 granted acceptance of the Discharger's Preliminary CPCMP, engineered alternative liner design, and the proposed engineered alternative final cover (see findings 44 and 45, above). The Discharger must submit a report to the Water Board on or before **March 30, 2017**, and by **March 30** every year thereafter, indicating that the Preliminary CPCMP is in conformance with existing Facility operations. The Preliminary CPCMP and cost estimates shall be updated if/when there is a substantial change in operations, costs for closure, and to reflect changes in inflation rates (see IV.D below).

A Final CPCMP shall be submitted at least two years prior to the anticipated date of closure for any or all parts of the Landfill. The Final CPCMP must be prepared by or under the supervision of either a California registered civil engineer or a certified engineering geologist and be in compliance with CCR, title 27, sections 20950 and 21769.

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<sup>9</sup> Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Tin, Vanadium, Zinc.

#### **D. Financial Assurance**

The Discharger must submit to the Water Board a financial assurance report on or before **March 30, 2017**, and by **March 30** every year thereafter, providing evidence that adequate financial assurances has been provided for closure, post-closure maintenance, and known and reasonably foreseeable releases. Evidence shall include the total amount of money available in the fund developed by the Discharger. In addition, the Discharger shall either provide evidence that the amount of financial assurance is still adequate or increase the amount of financial assurance by an appropriate amount. An increase may be necessary due to inflation, change(s) in regulatory requirements, change(s) in the approved closure plan, or other unforeseen events.

#### **E. Modifications to the Facility**

If the Discharger intends to expand the capacity of the Landfill, a report shall be filed no later than 180 days after the total quantity of waste discharged at this site equals 75 percent of the reported capacity of the site. The report shall contain a detailed plan for site expansion. This plan shall include, but is not limited to, a time schedule for studies, design, and other steps needed to provide additional capacity. If site expansion is not undertaken prior to the site reaching the reported capacity, the total quantity discharged shall be limited to the reported capacity.

I, Patty Z. Kouyoumdjian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Board, Lahontan Region, on June 8, 2016.



PATTY Z. KOUYOUMDJIAN  
EXECUTIVE OFFICER

- Attachments:
- A. Lancaster Landfill Facility Site Location Map
  - B. Authorized Waste Disposal Sites and Existing Monitoring Well Location Map
  - C. Standard Provisions for Waste Discharge Requirements

Board Order No. R6V-2016-Prop, Lancaster Landfill  
**WDRs Attachment A – Facility Location Map**

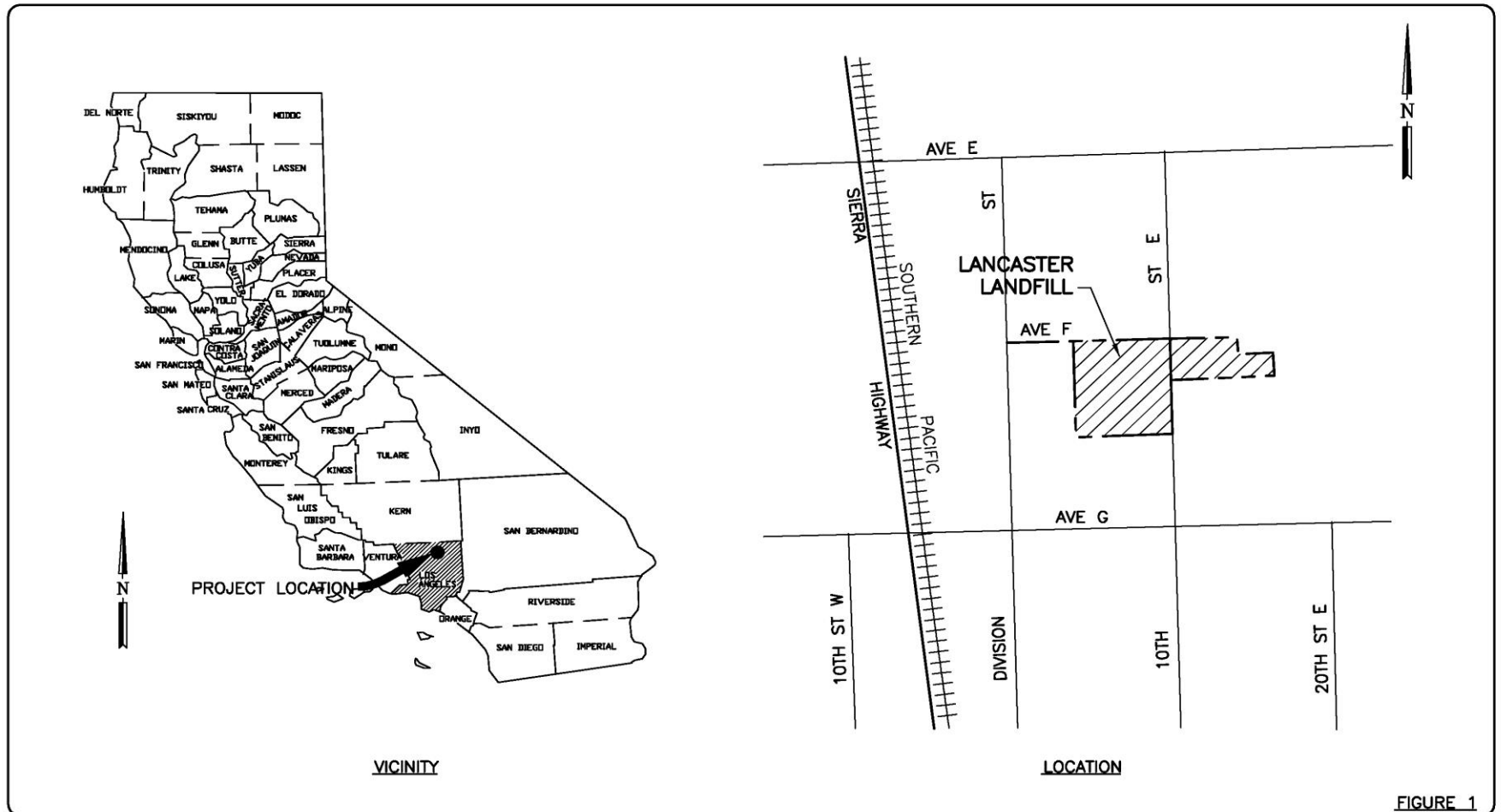


FIGURE 1

**BAS**  
 (909) 860-7777  
**BRYAN A. STIRRAT & ASSOCIATES**  
 CIVIL AND ENVIRONMENTAL ENGINEERS  
 1380 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

LANCASTER LANDFILL AND RECYCLING CENTER

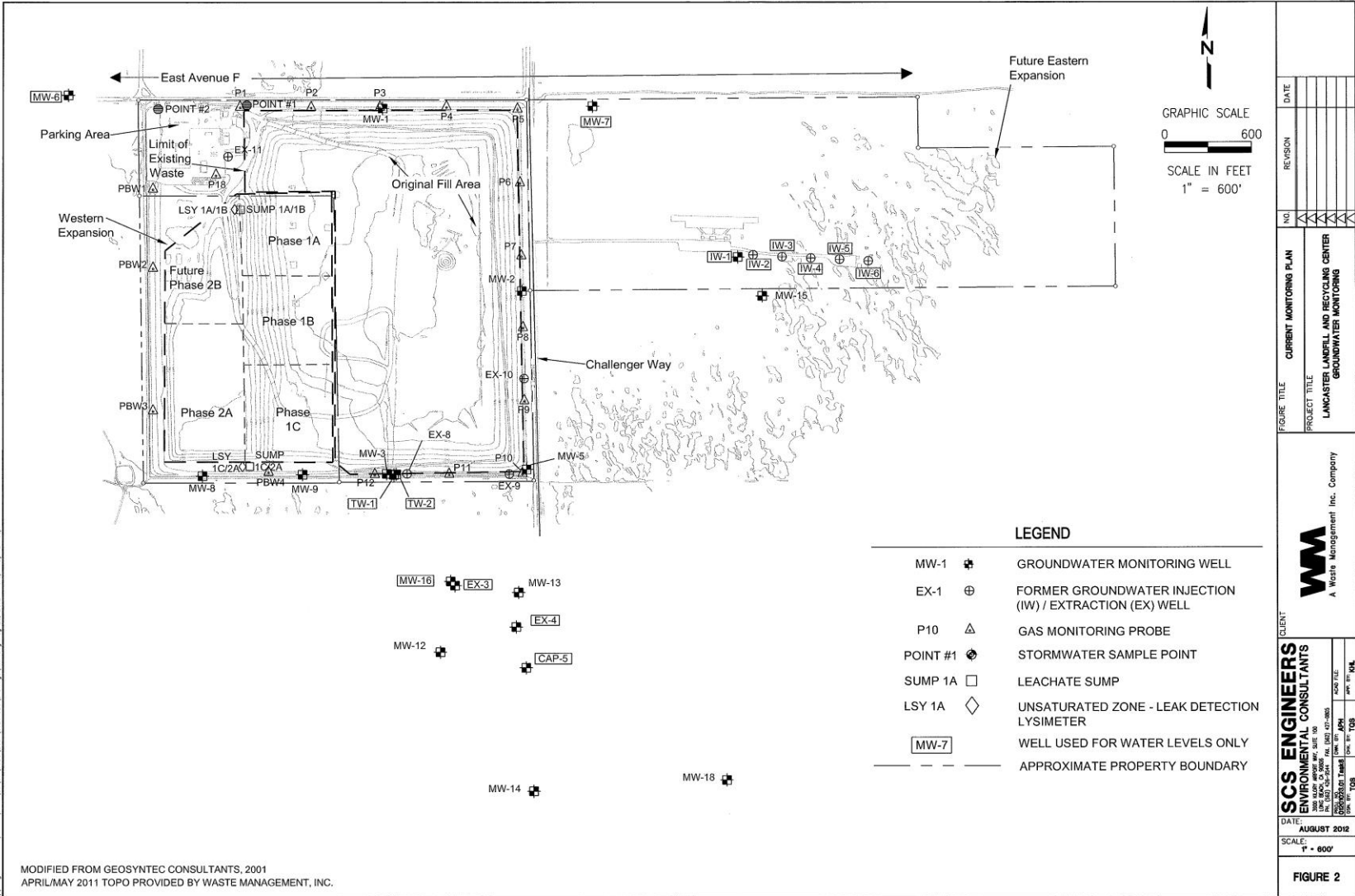
**SITE LOCATION MAP**

JOB NO.  
2008.0120  
 DATE  
9-2008  
 DRAWN BY  
CAL  
 FILE NAME:  
0224708.DWG

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# Board Order No. R6V-2016-Prop, Lancaster Landfill WDRs Attachment B – Landfill Layout and Groundwater Monitoring Well Location Map



<p><b>FIGURE TITLE</b> CURRENT MONITORING PLAN</p> <p><b>PROJECT TITLE</b> LANCASTER LANDFILL AND RECYCLING CENTER GROUNDWATER MONITORING</p> <p><b>CLIENT</b> SCS ENGINEERS ENVIRONMENTAL CONSULTANTS  <small>1000 N. UNIVERSITY AVENUE, SUITE 100              DENVER, COLORADO 80202              TEL: (303) 733-7200 FAX: (303) 733-7299              WWW.SCS-ENGINEERS.COM</small></p> <p><b>DATE:</b> AUGUST 2012</p> <p><b>SCALE:</b> 1" = 600'</p> <p><b>FIGURE 2</b></p>	<p><b>NO.</b></p> <p><b>REVISION</b></p> <p><b>DATE</b></p> <p><b>WASTE MANAGEMENT, INC. COMPANY</b></p> <p><b>APP. BY:</b> KAL</p> <p><b>CHK. BY:</b> TOS</p>
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W:\projects\2017\lancaster\GIS\LEI\LEI.dwg (2017) (2/20/2012) (Drawings) (WDR) Aug 22, 2012 - 6:56am Dwg: 2/2/2012

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**STANDARD PROVISIONS**  
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.
- f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

- a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.
- b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**MONITORING AND REPORTING PROGRAM  
NO. R6V-2016-0037  
WDID NO. 6B190343001**

**LANCASTER LANDFILL AND RECYCLING CENTER**

Los Angeles County

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I. WATER QUALITY PROTECTION STANDARD

A Water Quality Protection Standard (WQPS) is required by California Code of Regulations (CCR), title 27, section 20390 through 20410, to assure the earliest possible detection of a release from a waste management unit to the underlying soil and/or groundwater. The WQPS shall consist of all constituents of concern, the concentration limits for each constituent of concern, the point of compliance, and all water quality monitoring points, as described below. The Executive Officer shall review and accept the WQPS, or any modification thereto, for each monitored medium.

II. MONITORING

The Discharger must operate and maintain a detection and corrective action program (CAP) monitoring system that complies with the provisions contained in CCR, title 27, section 20385 through 20430. Monitoring of the groundwater and unsaturated zone must be conducted to evaluate the effectiveness of the CAP and to provide the best assurance of the early detection of any new releases from the Landfill. The monitoring system must be designed and certified by a California-licensed professional civil engineer or professional geologist as meeting the requirements of CCR, title 27, section 20415(e)(1). The Discharger must collect, preserve, and transport samples in accordance with an accepted sampling and analysis plan (SAP).

A. Groundwater

1. Constituents of Concern and Monitoring Frequencies

The constituents of concern (COC) include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in a waste management unit. Appendix II of 40 Code of Federal Regulation (CFR) part 258 specifies COC. The COC for each monitored medium at the Landfill are listed in Monitoring and Reporting Program (MRP) R6V-2016-PROP, attachment A. All COC shall be monitored every 5 years as specified in MRP attachments A and B.

## 2. Other Monitoring Parameters and Frequencies

- a. *Detection monitoring parameters* are a subset of the COC that provide a reliable indication of a release from the Facility, and are used to evaluate compliance with the WQPSs. Applicable detection monitoring parameters are listed in MRP attachment A. Detection monitoring parameters shall be sampled quarterly or semi-annually (twice per year) as specified in MRP attachments A and B.
- b. *Corrective action monitoring parameters* evaluate the effectiveness of corrective measures applied to the existing release. The corrective action monitoring parameters are the detection monitoring parameters listed in MRP attachment A, and shall be sampled quarterly to semi-annually depending on the monitoring point, as specified in MRP attachment B.
- c. *Background monitoring parameters* are collected to support developing future concentration limits for new monitoring wells. Background parameters are shown in MRP attachment A. New monitoring wells shall be sampled quarterly for a minimum of 8 quarters (2 years) upon well installation and prior to waste disposal at a new Landfill Unit, as specified in MRP attachment A.
- d. *Monitored Natural Attenuation (MNA) and Supplemental Geochemical parameters* are geochemical indicators of conditions favorable to intrinsic degradation of VOCs in groundwater, or provide additional insight into the local hydrogeologic system. These parameters are listed in MRP attachment A. MNA parameters and supplemental geochemical parameters shall be monitored annually or semi-annually, as specified in MRP attachments A and B.
- e. *Groundwater field parameters* are listed in MRP attachment A, and shall be collected quarterly to semi-annually, as specified in MRP attachments A and B.

## 3. Concentration Limits

- a. Concentration limits are established for each COC and are intended to reflect background ambient conditions of surface and subsurface media that are unaffected by a release from the waste management unit. At any given time, the concentration limit for each COC must be equal to the background data set of that constituent unless a concentration limit greater than background (CLGB) has been established. For the Landfill, no COC has an established CLGB.
- b. Title 27 allows for various options to determine concentration limits including statistical interwell and intrawell methods and non-statistical methods. The Discharger uses the following methodologies to determine concentration limits for the groundwater monitoring program.



- i. Inorganic Constituents. The Discharger is using historical water quality data from individual groundwater monitoring wells to develop well-specific concentration limits for inorganic detection monitoring parameters and COC. The concentrations limits are based on the upper threshold of background concentrations derived using intrawell Shewart control charts or intrawell prediction limits.

Updated inorganic constituent concentration limits may be proposed by the Discharger no more than once every two years, and must be submitted to Water Board staff for review and acceptance, along with data to support the update.

- ii. Organic Constituents. For anthropogenic organic COC, the Discharger uses a non-statistical method. Concentration limits have been set at practical quantitation limit (PQL) for the analytical method used.
- c. If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the Facility, the Discharger may request modification of the WQPS's concentration limits to provide season-specific concentration limits (background data sets) for each COC at each monitoring point.

#### 4. Point of Compliance

The point of compliance is a vertical surface located at the hydraulically downgradient limit of the Landfill that extends through the uppermost aquifer underlying the Landfill. The point of compliance for the Landfill will be monitored by the MW-8 and MW-9 for Western Expansion Area. Eastern Expansion Area point of compliance will be monitored by MW-15.

#### 5. Compliance Period

The compliance period is the number of years equal to the active life of the Landfill plus a minimum of 30 years. The compliance period is the minimum period during which the Discharger must conduct a water quality monitoring program subsequent to a release. The compliance period must begin anew each time the Discharger initiates an evaluation monitoring program (EMP). The compliance period may be extended if the facility is not in compliance with its WQPS.

#### 6. Monitoring Points and Frequencies

Specific monitoring points and associated frequencies shall be sampled as specified in MRP attachment B.

7. Depth to Groundwater

Prior to purging and sampling, the Discharger shall measure and record the depth below the ground surface of the static groundwater surface elevation in all groundwater monitoring wells. The measurements shall be accurate to the nearest 0.01 foot.

8. Groundwater Purging and Sampling

Prior to sampling, all groundwater monitoring wells must be purged using either standard or low-flow techniques until temperature, electrical conductivity, and pH of extracted well water have stabilized. These parameters will be considered stable when three consecutive readings have pH values within +/- 0.3 pH units and temperature and electrical conductivity values within +/- three (3) percent.

All groundwater samples, with the exception of field parameters, are to be analyzed by a California state-certified laboratory using the United States Environmental Protection Agency (USEPA) analytical methods listed in MRP attachment A or the most recently approved SW-846 USEPA method or other equivalent USEPA method. An alternate method may be proposed and used if acceptable to the Executive Officer.

9. Aquifer Characteristics

The Discharger must calculate and illustrate on a map the following aquifer characteristics: the static groundwater surface elevation (feet above mean sea level) in each groundwater monitoring well; the groundwater gradient (feet/feet); the direction of the groundwater gradient beneath and around the Facility; the velocity of groundwater flow (feet/year); and the current groundwater isocontours for that monitoring period.

10. Calibration Documentation

Annually, the Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of the field monitoring equipment.

B. Leachate and Unsaturated Zone Monitoring

1. Leachate Collection and Recovery System Sumps

a. Monitoring Points

- i. The Western Expansion Area leachate collection and recovery system (LCRS) includes two sumps which shall serve as monitoring points. The LCRS sump for northern portion of the Western Expansion Phase 1A, is designated SUMP1A/1B. The LCRS sump for southern portion of the Western Expansion is designated SUMP1C/2A.

- ii. The future Eastern Expansion Area will have 3 leachate sumps serving as monitoring points along the southern boundary of the Eastern Expansion waste disposal footprint, designated SUMPs 3/4, 5/6, and 7 (from west to east).

b. Monitoring Frequency and Parameters

- i. LCRS sumps shall be monitored quarterly. The depth of any liquid in each sump shall be recorded. If liquid is encountered and a sample can be recovered from the sump, a sample shall be collected.
- ii. Any liquid sample collected shall be analyzed for the detection, supplemental geochemical, and COC parameters listed in MRP attachment A. Following initial sampling of fluids from a sump, fluids shall be sampled and analyzed on an annual basis for the detection, supplemental geochemical, and all initially detected COC parameters.
- iii. If the recorded liquid depth in any LCRS sump is greater than 30 centimeters, the Discharger shall remove liquid in excess of 30 centimeters. The volume of liquid removed shall be recorded.

2. LCRS Sump Leak Detection

a. Monitoring Points

- i. The unsaturated zone beneath Western Expansion Area LCRS sumps shall be monitored by two lysimeters, designated LYS1A/1B and LYS1C/2A.
- ii. Future Eastern Expansion Area lysimeters which will underlie the future LCRS sumps are designated LYS3/4, 5/6 and 7 (from west to east).

b. Monitoring Frequency and Parameters

- i. Lysimeters shall be monitored quarterly. If liquid is encountered and a sample can be recovered from the lysimeter, a sample shall be collected.
- ii. Any liquid sample collected shall be analyzed for the detection, supplemental geochemical, and COC parameters listed in MRP attachment A. Following initial sampling of fluids from a lysimeter, fluids shall be sampled and analyzed on a semi-annual basis for the detection, supplemental geochemical, and all initially detected COC parameters until the leak is repaired and/or the lysimeter goes dry.

3. Landfill Gas (LFG)

a. Monitoring Points

Original Area LFG shall be monitored by gas probes P6, P9, P10, P11, and P12. Probe P10 shall be monitored at all depths. The Western Expansion Area LFG shall be monitored by gas probes PBW1 through PBW4. LFG probes are listed in MRP attachment B.

b. Monitoring Frequency and Parameters

- i. Original Area LFG probes shall be monitored quarterly for the field parameters and semi-annually for the detection monitoring parameters and constituents of concern shown in MRP attachment A.
- ii. Western Expansion Area LFG probes shall be monitored quarterly for the field parameters and annually for the detection monitoring parameters and constituents of concern shown in MRP attachment A.

4. Calibration Documentation

Annually, the Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of all field monitoring equipment.

C. Treated Auto Shredder Waste (TASW)

TASW shall be sampled by the waste generator according to the Waste Extraction Test (WET) procedure described in CCR, title 22, section 66700. The Discharger's authorized Waste Approval Manager shall verify that the results meet the TASW discharge concentration limits set in Board Order No. R6V-2016-0037, Table 3, section I.A prior to acceptance.

D. Solid Waste Discharge

The following data shall be collected and reported annually:

1. The quantity of contaminated soil accepted each calendar month, tabulated according to use (unrestricted use, or as ACD or disposal at the lined Landfill only). Copies of all analytical results of contaminated soil accepted must be retained by the Discharger, and made available upon request.
2. The quantity of TASW accepted each calendar month, along with a statement verifying all TASW accepted met the discharge concentration limits set in Table 3, Order section IA. Copies of all analytical results of TASW accepted must be retained by the Discharger, and made available upon request.

3. The percent of the total Landfill volume used for solid waste disposal, including waste disposed, and the volume of solid waste (in-place and compacted volume in cubic yards) discharged to the Landfill.
4. An evaluation of the effectiveness of the Facility's load checking program including total number of vehicles, total number of vehicles checked, the amount rejected and returned to the customer, and the amount transported to the Special Waste Facility for coordination of appropriate recycling or disposal.
5. An evaluation of the effectiveness of the Facility's Waste Approval Plan to prescreen any waste that may be considered designated, hazardous or otherwise not acceptable at a Class III landfill.

E. Storm Water Monitoring and Response Program

1. Storm Water Monitoring

a. Monitoring Points

The storm water discharge monitoring locations shall be selected such that samples collected are representative of storm water discharge leaving each drainage area identified for the Facility. The storm water discharge monitoring locations must be identified on the site plan in the Storm Water Pollution Prevention Plan (SWPPP) or equivalent document.

b. Storm Water Sampling

- i. The Discharger shall collect storm water samples from each storm water discharge monitoring location and analyze for monitoring parameters in accordance with the frequencies listed in MRP attachment A.
- ii. All storm water samples with the exception of pH and turbidity are to be analyzed by a California state-certified laboratory using the USEPA analytical methods listed in MRP attachment A or the most recently approved SW-846 USEPA method or other equivalent USEPA method. An alternate method may be proposed and used if acceptable to the Executive Officer.

c. Visual Observations

- i. Monthly, the Discharger shall visually observe and document, during dry weather conditions and normal operating hours, each drainage area for the following: the presence or indications of prior, current, or potential non-storm water discharges and its sources; authorized non-storm water discharges, its sources, and associated BMPs; and all potential pollutant sources.

- ii. Visual observations shall also be conducted at the same time that storm water sampling occurs. At the time a storm water sample is collected, the Discharger shall observe and document the discharge for the following:
  - 1) Visually observe and record the presence or absence of floating and suspended materials, oil and grease, discolorations, turbidity, odors, trash/debris, and source(s) of any discharged pollutants.
  - 2) In the event that a discharge location is not visually observed during the sampling event, the Discharger shall record which discharge locations were not observed during sampling or that there was no discharge from the discharge location.

d. Monitoring Parameters

The Discharger shall monitor, at each storm water discharge monitoring location, the parameters listed in its accepted SWPPP in accordance with the frequencies listed in MRP attachment A.

e. Water Quality Thresholds

The specific water quality thresholds that apply to the storm water monitoring parameters are listed in the table below. The numeric benchmarks are "not to exceed" values.

Table 1. Storm Water Monitoring Benchmarks<sup>1</sup>

<b>STORM WATER MONITORING</b>	
<b>Parameter</b>	<b>Benchmark Value</b>
Acrylonitrile	7.55
Aluminum, Total	0.75 mg/L
Ammonia	19 mg/L
Antimony, Total	0.636 mg/L
Arsenic, Total	0.16854 mg/L
Benzene	0.01 mg/L
Beryllium, Total	0.13 mg/L
Butylbenzyl Phthalate	3 mg/L
Cadmium, Total	0.0159 mg/L
Chloride	860 mg/L
Chromium, Total	0.46 mg/L
Copper, Total	0.0636 mg/L
Cyanide, Total	0.0636 mg/l
Dimethyl Phthalate	1.0 mg/L
Ethylbenzene	3.1 mg/L
Fluoranthene	0.042 mg/L
Fluoride	1.8 mg/L
Iron, Total	1.0 mg/L

<sup>1</sup> Adopted from US EPA multi-sector NPDES permit, Table B.

<b>STORM WATER MONITORING</b>	
<b>Parameter</b>	<b>Benchmark Value</b>
Lead, Total	0.0816 mg/L
Magnesium, Total	0.0636 mg/l
Manganese	1.0 mg/L
Mercury, Total	0.0024 mg/L
Nickel, Total	1.417 mg/L
Oil and Grease, Total	15 mg/L
PCB-1016	0.000127 mg/L
PCB-1221	0.10 mg/L
PCB-1232	0.000318 mg/L
PCB-1242	0.00020 mg/L
PCB-1248	0.002544 mg/L
PCB-1254	0.10 mg/L
PCB-1260	0.000477 mg/L
pH	Between 6.0 and 9.0 pH units
Phenols, Total	1.0 mg/L
Pyrene (PAH)	0.01 mg/L
Selenium, Total	0.2385 mg/L
Silver, Total	0.0318 mg/L
Toluene	10.0 mg/L
Total Petroleum Hydrocarbons, gas	None established; report results
Total Petroleum Hydrocarbons, diesel	None established; report results
Total Suspended Solids	100 mg/L
Trichloroethylene	0.0027 mg/L
Turbidity	500 nephelometric turbidity units (NTUs)
Zinc, Total	0.117 mg/L

## 2. Data Evaluation and Response Actions

- a. The storm water monitoring data (storm water sampling and analytical data and visual observations) must be evaluated to determine the following: the effectiveness of best management practices (BMPs) in reducing or preventing pollutants in the storm water discharges; compliance with the monitoring parameter water quality thresholds; and the need to implement additional BMPs and/or SWPPP revisions.
- b. The results of all storm water sampling and analytical results from each distinct sample must be directly compared to the water quality threshold for the corresponding monitoring parameter. An exceedance of one or more water quality threshold requires the Discharger to implement the following response actions:

- i. The Discharger shall notify the Water Board, verbally or via email, within 30 days of obtaining laboratory results whenever a determination is made that a water quality threshold is exceeded for one or more storm water monitoring parameters;
- ii. Identify the pollutant sources that may be related to the exceedance and whether the BMPs in the SWPPP have been properly implemented and perform BMP maintenance, if necessary;
- iii. Assess the SWPPP and its implementation to determine whether additional BMPs or SWPPP measures are necessary to reduce or prevent pollutants in storm water discharges and implement such changes as soon as practicable; and
- iv. Revise or amend the SWPPP, as appropriate, to incorporate the additional BMPs or SWPPP measures necessary to reduce or prevent pollutants in storm water discharges no later than 60 days of obtaining laboratory results of the reported exceedance; or
- v. Demonstrate, to the satisfaction of the Executive Officer, that the exceedance(s) is attributed solely to non-industrial pollutant sources and/or to natural background sources.

### III. REPORTING REQUIREMENTS

The Discharger must comply with the following reporting requirements. All reports submitted in electronic format (e.g., PDF documents) shall include a hyperlinked Table of Contents linked to all report sections including figures, tables, and appendices.

#### A. Scheduled Reports to be Filed with the Water Board

The following periodic reports must be submitted electronically to the Water Board by uploading to the State Water Board's Geotracker system, per the following schedule.



<b>REPORTING SCHEDULE</b>		
<b>Sampling and Reporting Frequency</b>	<b>Sampling and Reporting Period</b>	<b>Report Due Date</b>
First Semi-Annual DMP/CAP Monitoring Report	January 1 – June 30	August 15
Second Semi-Annual DMP/CAP Monitoring Report	July 1 – December 31	February 15
Annual DMP/CAP Monitoring Report	January 1 – December 31	March 30
Annual Storm Water Report	July 1 – June 30	August 15
Five-Year Constituent of Concern Monitoring Report <sup>1</sup>	January 1 – June 30	August 15
	July 1 – December 31	February 15
Five-Year Corrective Action Program Evaluation Report <sup>2</sup>	January 1 – December 31	March 30
<p><sup>1</sup> Sampling and reporting period will alternate between January 1 through June 30 for one five-year sampling event and July 1 through December 31 for the next five-year sampling event. The August 15 report due date corresponds to the January 1 through June 30 sampling and reporting period; the February 15 report due date corresponds to the July 1 through December 31 sampling and reporting period. The next 5-year report is due February 15, 2018.</p> <p><sup>2</sup> Sampling and reporting period is the most recent five calendar years prior to the report due date. The next 5-year report is due March 30, 2018.</p>		

1. Semi-Annual DMP/CAP Monitoring Reports

Each semi-annual report must include, but not be limited to, the following information.

- a. All data collected during the reporting period in accordance with the accepted SAP for the Landfill’s groundwater and unsaturated zone monitoring systems.
- b. Tabulated results of sampling and laboratory analyses for each groundwater monitoring point, including historic (last ten years) and current reporting period data, as well as the concentration limit for each monitoring parameter and an identification of each sample that exceeds its respective concentration limit by a measurably significant amount at any given monitoring point.
- c. Tabulated results of sampling and laboratory analyses for each unsaturated zone monitoring point, including historic (last ten years) and current reporting period data. Quarterly landfill gas data collected under the jurisdiction of the Antelope Valley Air Quality Management District, CalRecycle, and the Local Enforcement Agency (LEA) shall be appended to the report.

- d. Maps shall have a font size of no less than 9 points and include a scale and legend. All maps shall be in color, with legible color-coded symbols to easily discern the information provided. Map contents shall be consistent between each map, including color, symbols, and where possible, base map information:
- e. The following maps, at a minimum, shall be included:
  - i. A map showing the Landfill perimeter and ancillary facilities as well as locations of all monitoring points, observation stations, and the surface trace of the point of compliance.
  - ii. A map showing the static groundwater surface elevation (feet above mean sea level) in each groundwater monitoring well, the groundwater gradient (feet/feet) and the direction of the groundwater gradient beneath and around the Facility, the velocity of groundwater flow (feet/year), and the current groundwater isocontours for that monitoring period.
  - iii. Separate maps depicting each VOC detected in groundwater. Label each isoconcentration contour depicted and associated groundwater sampling locations. Concentrations of VOCs used to draw the isoconcentration contours shall be notated next to each monitoring point.
  - iv. A composite map showing maximum isoconcentration contours for each VOC plume detected in groundwater. Concentrations of VOCs used to draw each maximum isoconcentration contour shall be notated next to each monitoring point. All drinking water supply wells (including those not on the Facility property) within one-half mile downgradient or one-quarter mile cross-gradient from depicted plume boundaries must be shown on the composite map.
  - v. Separate maps depicting VOC soil gas isoconcentration contours and associated soil gas sampling locations. Concentrations of VOCs used to draw the isoconcentration contours shall be notated next to each monitoring point.
- f. Report the total volume of leachate collected each month since the previous reporting period, tabulated per leachate sump. Describe how leachate was disposed. Report the depth of liquid recorded since the previous reporting period, tabulated per leachate sump.
- g. Copies of all field monitoring and well sampling data sheets.

- h. Time-series plots of the analytical results from the groundwater and unsaturated zone monitoring at each monitoring point for each COC detected during the monitoring period as well as available historical data (minimum of last ten years of data). Time-series plots must include, as horizontal lines, the COC concentration limit as derived in accordance with the WQPS for the respective COC, as well as the PQL for the analytical method used.
- i. A letter transmitting the essential points of each report, including a discussion of any violations found since the last report was submitted and describing actions taken or planned for correcting those violations.
  - i. If the Discharger has previously submitted a detailed time schedule for correcting violations, a reference to the correspondence transmitting this schedule will suffice.
  - ii. If no violations have occurred since the last submittal, this must be stated in the letter of transmittal.

## 2. Annual DMP/CAP Monitoring Reports

Annual Monitoring Reports must be submitted to the Water Board no later than **March 30** of each year, and may be combined with the second semi-annual DMP/CAP monitoring report for the last reporting period of that year. The annual report must include the items described in the General Provisions for Monitoring and Reporting (MRP attachment C), the information required under MRP section III.A.1, and the following information.

- a. Two maps, one for each semi-annual monitoring period of the last reporting year, showing the groundwater elevation isocontour determined for that reporting period, the Landfill and all ancillary facilities, all groundwater and unsaturated zone monitoring points, and the surface trace of the point of compliance.
- b. Calibration methods and any discrepancies of any meters used for field parameter evaluations after calibration is performed.
- c. An evaluation of the effectiveness of both the groundwater and unsaturated zone monitoring programs and any proposed modifications necessary to improve the DMP and/or CAP. The evaluation of corrective action activities should also include map(s) showing changes in VOC isoconcentration contours from the last annual reporting period to the current period.
- d. Review of the WQPS for the Landfill and recommendations regarding any updates to the WQPS including concentration limits. Such recommendations shall be limited to no more than once every two years.

- e. A brief chronological summary of dates of any operational problems and maintenance activities that may impact water quality at the site. A summary of the inspections for the integrity of the cover material, drainage structures, potential erosion areas, and groundwater and/or unsaturated zone monitoring devices.
  - f. The compliance record and the corrective actions taken or planned, which may be needed to bring the Facility into full compliance with the discharge requirements.
  - g. Evidence that adequate financial assurance for closure, post-closure maintenance, and corrective action is still in effect. Evidence may include a copy of the renewed financial instrument or a copy of the receipt for payment of the financial instrument.
  - h. Evidence that the financial assurance amount is adequate or increase the amount of financial assurance by an appropriate amount if necessary, due to inflation, a change in the accepted closure plan, or other unforeseen events.
  - i. The Discharger must review the preliminary closure and post-closure maintenance plan annually to determine if significant changes in the operation of the Facility warrant an update to any of these plans. Proposed changes to these plans must be outlined in the annual report.
3. Annual Storm Water Reports

Annual storm water reports must be submitted to the Water Board no later than **August 15** of each year in accordance with the frequencies listed in MRP attachment A, and may be combined with the first semi-annual DMP/CAP monitoring report. Annual storm water reports must include, but not be limited to, the following information:

- a. All data collected during the reporting period in accordance with the storm water monitoring plan.
- b. Tabulated results of sampling and laboratory analyses for each storm water discharge monitoring location, including historic and current reporting period data, as well as the water quality threshold for each monitoring parameter and an identification of each sample that exceeds its respective water quality threshold at any given discharge monitoring location. Provide dates and rainfall amount (in inches per hour) for each qualifying storm event which triggers storm water sampling.
- c. A copy of the current site map from the SWPPP.

- d. Copies of all field monitoring, storm water sampling, and visual observation data sheets. An explanation shall be provided in the Annual Report for uncompleted sampling event visual observations.
  - e. Calibration methods and any discrepancies of any meters used for field parameter evaluations after calibration is performed.
  - f. A summary of the actions taken in response to a water quality threshold exceedance, including monitoring parameter and pollutant source(s) involved, additional BMP and/or SWPPP measures taken, and associated dates and timelines for implementing the response action; or a demonstration that the exceedance(s) is attributed to a non-industrial pollutant source and/or to a natural background source.
  - g. A copy of any SWPPP amendments and/or revisions for the reporting period.
  - h. A summary of significant spills and/or leaks that occurred at the Facility during the reporting period and the response taken by the Discharger, including dates.
  - i. A summary of employee trainings performed during the reporting period, including dates and content.
4. Five-Year Constituent of Concern Monitoring and Reporting Program

Pursuant to CCR, title 27, section 20420, subdivision (g), every five years the Discharger must sample for COC. Groundwater samples must be collected and submitted for laboratory analyses at all monitoring points once every five years for all monitoring parameters and COC listed in Appendix II of 40 CFR, Part 258. Successive monitoring efforts must be carried out alternately during January 1 through June 30 of one five-year sampling event and July 1 through December 31 of the next five-year sampling event, and every fifth year, thereafter. The five-year COC sampling event must be reported no later than 45 days following the monitoring period. The last five-year sampling event occurred in first half of 2012; therefore, the next five-year sampling event is scheduled to occur in second half of 2017 and reported to the Water Board no later than **February 15, 2018**.

5. Five-Year Corrective Action Program Evaluation Report

During the life of the CAP, the Discharger shall submit to the Water Board every five years a Five-Year Corrective Action Program Evaluation Report. This report will be submitted to the Water Board **by March 30<sup>th</sup> beginning with year 2018**, and can be combined with the Annual Monitoring Report for that reporting period. The Five-Year Corrective Action Program Evaluation Report shall include the following.

- a.

- b. A detailed evaluation of the CAP and recommendations to continue, modify or discontinue the CAP, including recommendations for other remedial alternatives.
- c. Status information regarding CAP progress with supporting evidence collected as part of the groundwater and unsaturated zone monitoring programs.
- d. A chronological summary of any contingency remedies and/or triggers that were identified and the additional corrective actions taken or planned during the previous five years of implementing the CAP.

B. Unscheduled Reports to be Filed with the Water Board

The following reports must be submitted to the Water Board as specified below.

1. Notice of Tentative Release from the Landfill

The Discharger must perform the procedures contained in this subsection whenever there is evidence of a release from the Landfill.

a. Physical or Measurably Significant Evidence of a Release from the Landfill

The Discharger must immediately notify the Water Board verbally whenever a determination is made that there is physical or "measurably significant" evidence of a release from the Landfill. This verbal notification must be followed by written notification via certified mail within seven days of such determination. Upon such notification, the Discharger may initiate verification procedures or demonstrate that another source other than the Landfill caused evidence of a release in accordance with WDR section IV F.

The notification must include the following information:

- i. The potential source of the release;
- ii. General information including the date, time, location, and cause of the release;
- iii. An estimate of the flow rate and volume of waste involved;
- iv. A procedure for collecting samples and description of laboratory tests to be conducted;
- v. Identification of any water body or water-bearing media affected or threatened;
- vi. A summary of proposed actions; and

- vii. For a measurably significant evidence of a release – the monitoring parameters and/or COC that are involved in the measurably significant evidence of a release from the Landfill; or
- viii. For a physical evidence of a release – the physical factors that indicate evidence of a release.

b. Other Source That May Cause Evidence of a Release From the Landfill

The Discharger may make a demonstration that a source other than the Landfill caused evidence of a release. For this case, the Discharger must notify the Water Board of the intention to make this demonstration. The notification must be sent to the Water Board by certified mail within seven days of determining physical or measurably significant evidence of a release.

2. Evaluation Monitoring

The Discharger must, within 90 days of verifying a release, submit a technical report pursuant to California Water Code section 13267, subdivision (b), proposing an EMP meeting the provisions of CCR, title 27, section 20420, subdivision (k)(5). If the Discharger decides not to conduct verification procedures, or decides not to make a demonstration that a source other than the Landfill is responsible for the release, the release will be considered verified. The EMP must include the following information:

- a. COC Concentrations – the maximum concentration of each COC at each Monitoring Point as determined during the most recent COC sampling event (i.e., under CCR, title 27, section 20420, subdivision (g) or (k)[1]). Any COC that exceeds its concentration limit is to be retested at that monitoring point. Should the results of the retest verify that the COC is above the concentration limit, then that COC will become a monitoring parameter at that monitoring point;
- b. Proposed Monitoring System Changes – any proposed changes to the groundwater and unsaturated zone monitoring systems necessary to meet the provisions of CCR, title 27, section 20425;
- c. Proposed Monitoring Changes – any proposed additions or changes to the monitoring frequency, sampling and analytical procedures or methods, or statistical methods used at the Facility necessary to meet the provisions of CCR, title 27, section 20425; and
- d. Proposed Delineation Approach – a detailed description of the measures to be taken by the Discharger to assess the nature and extent of the release from the Landfill.

3. Engineering Feasibility Study Report

Within 180 days of verifying the existence of a release, the Discharger must submit an Engineering Feasibility Study report meeting CCR, title 27, section 20420, subdivision (k)(6), proposing corrective action measures that could be taken to achieve background concentrations for all COC involved in the release. This report will be the basis for a later expanded Engineering Feasibility Study, submitted under the Evaluation Monitoring Program, per CCR, title 27, section 20425, subdivision (b).

4. Monitoring Well Logs

Pursuant to CCR, title 27, section 20415, subdivision (e)(2) all monitoring wells (including groundwater and unsaturated zone monitoring wells) and all other borings installed to satisfy the requirements of this Monitoring and Reporting Program shall be drilled by a licensed drilling contractor and shall be logged during drilling under the direct supervision of either a California-licensed professional geologist or civil engineer with expertise in stratigraphic well logging. These logs shall be submitted to the Water Board within 90 days following completion of fieldwork.

5. Landfill Design Reports

For future Landfill Phase 2B of the Western Expansion Area and future Phases 3 through 7 of the Eastern Expansion Area, the Discharger shall submit Landfill Design Reports **120 days prior to construction** of a new lined Landfill phase. Reports shall contain Construction Quality Assurance (CQA) plans, as well as detailed engineering plans and specifications for each major design element, including at a minimum, the accepted elements of the liner and LRCS as described in the RWD/JTD dated September 2012. Plans shall be prepared, signed and stamped by a California-registered Civil Engineer or Certified Engineering Geologist. CQA Plans will conform to all of the requirements specified in CCR, title 27, section 20324.

6. Significant Earthquake or Flood Event

After a significant<sup>2</sup> or greater earthquake event, the Discharger shall notify the Water Board within 48 hours, and within 45 days submit to the Water Board a detailed written post-earthquake report describing any physical damages to the containment features or groundwater and/or unsaturated zone monitoring systems. The Discharger shall closely examine the Landfill cover, vegetative cover, slope conditions, drainage control system, and surface grading for signs of cracking or depressed/settled areas, following the earthquake event. If cracking or depressed areas of the cover is identified, the Discharger shall make repairs to those areas within 30 days from the date of the earthquake event.

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<sup>2</sup> A significant earthquake is a seismic event classified according to the United States Geological Survey Earthquake Hazard Program as a moderate earthquake measuring between 5 and 5.9 on the Richter scale.



Following a 24-hour, 100-year storm or a flood having a 100-year return period, the Discharger shall notify the Water Board within 48 hours, and within 45 days submit to the Water Board a detailed written post-flood report describing any physical damages to containment features or cover materials. The Discharger shall closely examine such features and materials for inundation, washout, or erosion of wastes and erosion. If such damage is identified, the Discharger shall make repairs to those areas within 30 days from the date of the earthquake event or as soon as conditions allow access.

C. General Provisions

The Discharger must comply with attachment C, "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made a part of this MRP.

D. Violations

If monitoring data indicate violation of the WDRs, the Discharger must report the violation in the scheduled report for the corresponding reporting period and provide information indicating the cause of violation(s) and the action taken or planned to bring the discharge into compliance.

Ordered by: Patty Z. Kouyoumdjian Dated: June 8, 2016  
PATTY Z. KOUYOUMDJIAN  
EXECUTIVE OFFICER

Attachments: A. Water Quality Monitoring Program  
B. Monitoring Points, Media and Frequencies  
C. General Provisions for Monitoring and Reporting (September 1, 1994)

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Monitoring and Reporting Program R6V-2016-PROP  
Attachment A

<b>WATER QUALITY MONITORING PROGRAM</b>					
<b>GROUNDWATER MONITORING</b>					
<b>Parameter</b>	<b>Units</b>	<b>USEPA Method<sup>1</sup></b>	<b>Sampling Frequency<sup>2</sup></b>	<b>Reporting Frequency</b>	
<b>Field Parameters</b>					
Depth to Groundwater	feet below measuring point	--	quarterly	semi-annually	
Temperature	degrees Farenheit or Celsius	--	quarterly to semi-annually	" "	
Electrical Conductivity	micromhos/cm	--	" "	" "	
pH	pH Units	--	" "	" "	
Turbidity	NTUs	--	" "	" "	
Dissolved Oxygen <sup>3</sup>	milligrams/liter	--	" "	" "	
Oxidation Reduction Potential <sup>3</sup>	milliVolts	--	" "	" "	
Carbon Dioxide <sup>3</sup>	milligrams/liter	--	" "	" "	
<b>Constituents of Concern</b>					
<b>Detection Monitoring and Corrective Action Parameters</b>	Volatile Organic Compounds <sup>4</sup>	micrograms/liter	8260B	quarterly to semi-annually	semi-annually
	Total Dissolved Solids	milligrams/liter	2540C	" "	" "
	Chloride	milligrams/liter	300	" "	" "
	Sulfate	milligrams/liter	300	" "	" "
	Sodium, dissolved	milligrams/liter	6010	" "	" "
	Calcium, dissolved	milligrams/liter	6010	" "	" "
	Magnesium, dissolved	milligrams/liter	6010	" "	" "
	Silicon, dissolved	milligrams/liter	6010	" "	" "
	Bicarbonate Alkalinity	milligrams/liter	310.0	" "	" "
	Potassium, dissolved	milligrams/liter	6010	" "	" "
Antimony	micrograms/liter	7062	5 year	5 year	
Arsenic	micrograms/liter	7062	" "	" "	

Monitoring and Reporting Program R6V-2016-PROP  
Attachment A

Barium	micrograms/liter	6010	" "	" "
Beryllium	micrograms/liter	6010	" "	" "
Cadmium	micrograms/liter	7131	" "	" "
Chromium	micrograms/liter	6010	" "	" "
Cobalt	micrograms/liter	6010	" "	" "
Copper	micrograms/liter	6010	" "	" "
Lead	micrograms/liter	7421	" "	" "
Mercury	micrograms/liter	7471	" "	" "
Nickel	micrograms/liter	7521	" "	" "
Selenium	micrograms/liter	7742	" "	" "
Silver	micrograms/liter	6010	" "	" "
Thallium	micrograms/liter	7841	" "	" "
Tin	micrograms/liter	6010	" "	" "
Vanadium	micrograms/liter	6010	" "	" "
Zinc	micrograms/liter	6010	" "	" "
Volatile Organic Compounds <sup>5</sup>	micrograms/liter	8260B	" "	" "
Semi-volatile Organic Compounds <sup>5</sup>	micrograms/liter	8270C	" "	" "
Organophosphorous Pesticides	micrograms/liter	8141A	" "	" "
Organochlorine Pesticides	micrograms/liter	8081	" "	" "
Chlorophenoxy Herbicides	micrograms/liter	8151A	" "	" "
Polychlorinated Biphenyls and Pesticides <sup>5</sup>	micrograms/liter	8141	" "	" "
Chlorinated Herbicides <sup>5</sup>	micrograms/liter	8151	" "	" "
Cyanide	micrograms/liter	9012/9010	" "	" "
Sulfide	micrograms/liter	9030/9034 or 4500S-F/S2	" "	" "

Monitoring and Reporting Program R6V-2016-PROP  
Attachment A

<b>Background Parameters (to be sampled for 8 events after monitoring well installation)</b>				
Detection Monitoring Parameters listed above	micrograms/liter	as above	8 events prior to waste acceptance	semi-annually
Supplemental Parameters listed below	milligrams/liter	as below	" "	" "
COC Metals (17 metals, listed above)	micrograms/liter	as above	" "	" "
Cyanide	micrograms/liter	as above	" "	" "
Sulfide	micrograms/liter	as above	" "	" "
<b>Supplemental Parameters</b>				
Calcium	milligrams/liter	6010	semi-annually	semi-annually
Magnesium	milligrams/liter	6010	" "	" "
Sodium	milligrams/liter	6010	" "	" "
Potassium	milligrams/liter	6010	" "	" "
Carbonate	milligrams/liter	310.1	" "	" "
Bicarbonate	milligrams/liter	310.1	" "	" "
Hardness	milligrams/liter	SM-2340B	" "	" "
Ortho-phosphate	milligrams/liter	365.1	" "	" "
Total Alkalinity <sup>3</sup>	milligrams/liter	2320B	" "	" "
Bicarbonate Alkalinity	milligrams/liter	2320B	" "	" "
Carbonate Alkalinity	milligrams/liter	2320B	" "	" "
Nitrate as Nitrogen	milligrams/liter	300	" "	" "
Total Organic Carbon <sup>3</sup>	milligrams/liter	5310B	" "	" "
Dissolved Gas (ethane, ethene, methane <sup>3</sup> )	micrograms/liter	RSKSOP175	" "	" "
Chloride	milligrams/liter	300	" "	" "
Sulfate	milligrams/liter	300	" "	" "
Total Dissolved Solids	milligrams/liter	2540C	" "	" "

Monitoring and Reporting Program R6V-2016-PROP  
Attachment A

Sulfide	milligrams/liter	376.2	" "	" "
Ferrous (II) Iron <sup>3</sup>	milligrams/liter	SM 3500 FE D	" "	" "
Ferric (III) Iron <sup>3</sup>	milligrams/liter	SM 3500	" "	" "
Manganese <sup>3</sup>	milligrams/liter	6010	" "	" "
Ammonia as Nitrogen	milligrams/liter	415.1	" "	" "
<b>LEACHATE SUMP and LYSIMETER MONITORING</b>				
<b>Parameter</b>	<b>Units</b>	<b>USEPA Method<sup>1</sup></b>	<b>Sampling Frequency</b>	<b>Reporting Frequency</b>
<b>Leachate Sump Monitoring</b>				
Field Parameters <sup>7</sup>	--	--	quarterly	semi-annually
Supplemental Parameters listed above	as above	as above	annually if liquid is present	" "
Constituents of Concern including Detection Monitoring Parameters, listed above	as above	as above	" "	" "
<b>Lysimeter Monitoring</b>				
Field Parameters <sup>8</sup>	--	--	quarterly	semi-annually
Supplemental Parameters listed above	as above	as above	semi-annually if liquid is present	semi-annually
Constituents of Concern including Detection Monitoring Parameters, listed above	as above	as above	" "	" "
<b>UNSATURATED ZONE (SOIL-PORE GAS) MONITORING</b>				
<b>Parameter</b>	<b>Units</b>	<b>USEPA Method<sup>1</sup></b>	<b>Sampling Frequency</b>	<b>Reporting Frequency</b>
<b>Field Parameters</b>				
Atmospheric Pressure	inches of mercury	--	quarterly	semi-annually
Methane	parts per million or percent by volume	--	" "	" "
Carbon Dioxide	parts per million or percent by volume		" "	" "
Nitrogen	parts per million or percent by volume		" "	" "
Oxygen	parts per million or percent by volume		" "	" "

Monitoring and Reporting Program R6V-2016-PROP  
Attachment A

Constituents of Concern				
Methane	parts per million or percent by volume	ASTM-D1946	semi-annually to annually	semi-annually
Carbon Dioxide	parts per million or percent by volume	" "	" "	" "
Nitrogen	parts per million or percent by volume	" "	" "	" "
Oxygen	parts per million or percent by volume	" "	" "	" "
Volatile Organic Compounds	parts per billion by weight ( $\mu\text{g}/\text{m}^3$ )	TO-15	" "	" "
STORM WATER MONITORING				
Parameter	Units	USEPA Method <sup>1</sup>	Sampling Frequency	Reporting Frequency
Selected parameters from MRP Table 1, as listed in accepted Storm Water Pollution Prevention Plan (SWPPP)	As specified in accepted SWPPP	See footnote	four qualifying storm events per year <sup>6</sup>	annually
pH	pH units	--	" "	" "
Total Suspended Solids	milligrams/liter	SM-2540-D	" "	" "
Oil and Grease	milligrams/liter	1664A	" "	" "
Iron, Total	milligrams/liter	200.7	" "	" "

1. The Discharger shall analyze for all constituents, with the exception of field parameters, using the United States Environmental Protection Agency (USEPA) analytical methods indicated or the most recently approved SW-846 USEPA method or other equivalent USEPA method. An alternate method may be proposed and used if acceptable to the Executive Officer.
2. See MRP Attachment B for specific frequencies for each monitoring point.
3. Parameters to evaluate Monitored Natural Attenuation shall be analyzed on an annual basis.
4. As defined in Appendix I, 40 CFR, part 258. These VOCs are also considered corrective action monitoring parameters.
5. As defined in Appendix II, 40 CFR, part 258.
6. A qualifying storm event is a precipitation event that produces a storm water discharge for at least one drainage area and is preceded by 48 hours with no discharge from any drainage area. The Discharger shall collect and analyze storm water samples from two qualifying storm events within the first half of each reporting year (July 1 to December 31) and from two qualifying storm events within the second half of each reporting year (January 1 through June 30). If a sufficient number of qualifying storm events do not occur within a given reporting year, the Discharger must document and report that information in the regularly scheduled Annual Storm Water Report.
7. Field parameters for leachate sumps are: 1) presence and depth of liquid in each sump; 2) if liquid volume is sufficient for sample collection, and 3) amount of volume removed if liquid depth is greater than 30 centimeters.
8. Field parameters for lysimeters are: 1) presence of liquid and 2) if liquid volume is sufficient for sample collection.

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Monitoring and Reporting Program R6V-2016-PROP  
Attachment B

<b>Monitoring Points, Parameters and Sampling Frequencies</b>						
	<b>Landfill Area</b>	<b>Field Parameters<sup>1</sup></b>	<b>DMP/CAP<sup>2</sup> Parameters</b>	<b>Constituents of Concern<sup>3</sup></b>	<b>Supplemental Parameters</b>	<b>MNA Parameters</b>
<b>Corrective Action Program (Groundwater Monitoring)</b>						
MW-1	OA	SA	SA	5 year	SA	A
MW-2	OA	SA	SA	5 year	SA	A
MW-3	OA	SA	SA	5 year	SA	A
MW-5R	OA	Q	Q	5 year	SA	A
MW-7	OA	SA	SA	5 year	SA	A
MW-12	OA	SA	SA	5 year	SA	A
MW-13	OA	SA	SA	5 year	SA	A
MW-14	OA	SA	SA	5 year	SA	A
MW-15	OA	SA	SA	5 year	SA	A
MW-16	OA	SA	SA	5 year	SA	A
MW-18	OA	SA	SA	5 year	SA	A
EX-8	OA	Q	Q	5 year	SA	A
EX-9	OA	Q	Q	5 year	SA	A
EX-10	OA	Q	Q	5 year	SA	A
EX-11	OA	SA	SA	5 year	SA	A
<b>Detection Monitoring Program (Groundwater Monitoring) (Bolded MWs are point of compliance wells)</b>						
<b>MW-8</b>	WEA	SA	SA	5 year	SA	A
<b>MW-9</b>	WEA	SA	SA	5 year	SA	A
MW-15	OA/EEA	SA	SA	5 year	SA	A
MW-20 <sup>4</sup>	EEA	SA	SA	5 year	SA	A
MW-21 <sup>4</sup>	EEA	SA	SA	5 year	SA	A
MW-22 <sup>4</sup>	EEA	SA	SA	5 year	SA	A
<b>Background Upgradient (Groundwater Monitoring)</b>						
MW-6	WEA	SA	A	5 year	SA	A
<b>Soil Gas Sampling Points</b>						
P6, P9, P10 (all depths for P10), P11, P12	OA	Q	SA	SA		
PBW1 through PBW4	WEA	Q	A	A		

<sup>1</sup> Water levels in all groundwater monitoring points shall be monitored quarterly.

<sup>2</sup> VOCs listed in 40 CFR, part 258, Appendix I.

<sup>3</sup> VOCs listed in 40 CFR, part 258, Appendix II.

<sup>4</sup> These are future Eastern Expansion Area monitoring points; not constructed as of 2016.

<sup>5</sup> Field parameters for leachate sump monitoring are: 1) presence and depth of liquid in each sump; 2) if liquid volume is sufficient for sample collection, and 3) amount of volume removed if liquid depth is greater than 30 centimeters.

<sup>6</sup> Field parameters for lysimeter monitoring are 1) presence of liquid and 2) if liquid volume is sufficient for sample collection.

Monitoring and Reporting Program R6V-2016-PROP  
Attachment B

Leachate Sump (SUMP) and Lysimeter (LYS) Monitoring						
	Landfill Area	Field Parameters	DMP/CAP <sup>2</sup> Parameters	Constituents of Concern <sup>3</sup>	Supplemental Parameters	MNA Parameters
SUMP1A/1B	WEA	Q <sup>5</sup>	Q/A	Q/A	Q/A	
SUMP1C/2A	WEA	Q	Q/A	Q/A	Q/A	
SUMP3/4 <sup>4</sup>	EEA	Q	Q/A	Q/A	Q/A	
SUMP5/6 <sup>4</sup>	EEA	Q	Q/A	Q/A	Q/A	
SUMP7 <sup>4</sup>	EEA	Q	Q/A	Q/A	Q/A	
LYS1A/1B	WEA	Q <sup>6</sup>	Q/SA	Q/SA	Q/SA	
LYS1C/2A	WEA	Q	Q/SA	Q/SA	Q/SA	
LYS3/4 <sup>4</sup>	EEA	Q	Q/SA	Q/SA	Q/SA	
LYS5/6 <sup>4</sup>	EEA	Q	Q/SA	Q/SA	Q/SA	
LYS7 <sup>4</sup>	EEA	Q	Q/SA	Q/SA	Q/SA	

**Abbreviations:**

OA= Original Area

WEA = Western Expansion Area

EEA = Eastern Expansion Area

Q = quarterly (4 times per year)

Q/A = monitored quarterly and sampled annually if liquid is present

Q/SA = monitored quarterly and sampled semi-annually if liquid is present

SA = semi-annual (twice per year)

A = annually (once per year)

5 year = once every 5 years

**Notes:**

- Specific constituents for each parameter category referred to in this table are listed in MRP attachment A
- Any new groundwater monitoring well added to this program shall be monitored for the background parameters listed in attachment A for a minimum of 8 quarters (2 years) after monitoring well installation and prior to accepting waste (for wells monitoring newly constructed expansion areas).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**GENERAL PROVISIONS**  
FOR MONITORING AND REPORTING

1. **SAMPLING AND ANALYSIS**

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
  - i. Standard Methods for the Examination of Water and Wastewater
  - ii. Methods for Chemical Analysis of Water and Wastes, EPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
- d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.
- e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

## 2. OPERATIONAL REQUIREMENTS

### a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

### b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

## 3. REPORTING

- a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.
- b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.
- d. Monitoring reports shall be signed by:
  - i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;
  - ii. In the case of a partnership, by a general partner;
  - iii. In the case of a sole proprietorship, by the proprietor; or

- iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
- e. Monitoring reports are to include the following:
  - i. Name and telephone number of individual who can answer questions about the report.
  - ii. The Monitoring and Reporting Program Number.
  - iii. WDID Number.
- f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

#### 4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.

x:PROVISIONS WDRS

file: general pro mrp